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**EDITION 8**

# **OZA** *miga*

Australia's ONLY Tutorial Magazine

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**Bumper  
COMMUNICATIONS  
Edition**

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(Chris Leathley)  
**BEGINNINGS**  
(David Reeves)  
**COMMUNICATIONS**  
(Raff Lerro)  
**BRUSH MAPPING**  
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# OZAmiga Magazine

*This months cover pic.*

Andrew Thompson of Keysborough in Victoria is not only responsible for the terrific "Water Drop" picture on the cover but also those displayed in this edition's Portfolio on the back cover.

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## Disclaimer

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# Letters

## EDITORS NOTE



To Whom it may concern,

My name is Jeremy Eayrs. I have owned an Amiga 500 since Christmas 1992. I was at my local newsagent and saw your magazine. I am very impressed that an Australian based magazine is in circulation. I am also very impressed that you show a commitment to programmers and publish articles accordingly.

I program in Amos the Creator V1.35. I have only been programming in this language since I bought my A500 but that doesn't necessarily mean I am not good at what I do. I was able to pick it up quickly as I have limited knowledge of FORTRAN (IBM), C (IBM), MODULA 2 (Apple) and a special language used by the University of Wollongong.

It was the speed, musical abilities and flexibility of the Amiga that convinced me that it was the machine for me. I must say that I don't regret that decision at all.

Now to the main reason for this letter. I would like to ask for the names and contacts of Australian programmers and PD libraries. I would also like to put my name on the list of help numbers. I am not an expert but I can certainly give help and advice to those in need.

Your expectantly,  
Jeremy  
NSW

Hi everyone,

I'm back again. I am going to keep my note short this time as we have a bumper edition for you to get into.

Not only is the magazine 4 pages thicker, it also goes out to many more people and has had major improvements to the coverdisk.

This edition sees the first installment of Programming Pals and has many articles about communications. Using the modem with the Amiga is a very large interest point as this is where our strength lies. It seems most of the Amiga community has moved from the User Groups to the Bulletin Boards.

We have begun a section called User Reports, which is for you to send in your thoughts on any new hardware.

Also, the long awaited Education section begins with a look at The Castle of Dr Brain. Not all software in this section will be new, but it will have strong educational value.

Look out in edition 9 for the start of our new Music column. It will cover MIDI and much more. Lastly, my apologies for the lateness of this edition. Unfortunately it couldn't be helped.

Anyway read on and enjoy. ED

Dear Jeremy,

It is always good to hear from new readers. It gives us an idea how well the mag is being received. It also gives you the opportunity to have your say in what is published.

I am very glad to hear that our emphasis on programming tutorials is to your liking. It seems you can never know enough so a bit of help along the way is appreciated.

You will be able to find, in this edition, the first ever list of Programming Pals. Your name has been included on the list along with many others that don't mind helping out those new to programming or those just stuck on a particular problem. This is just another of the things we are trying to do to help the Australian programming community.

Having noticed your interest in music, I thought you might also like to know that in the very near future (possibly Ed9) we will be starting a column on the Amiga, MIDI and Music. The column is to be written by someone that uses the Amiga and MIDI in his own recording studio. I won't go into much more detail here so you will have to look out for the articles in future editions.

Again, thank you for your input and your willingness to be included in Programming Pals.

Dave

Dear David,

I have a question about Coverdisk #5. When I try to load DeliTracker WB2.x it asks me to insert ENV in any drive (what is this and where do I find it?). When cancelled, a requester states "Could not open commodities library", to look on the disk further I need to reboot.

How can I fix this without causing more problems?

Exasperated,  
Colin  
Old



Dear Colin,

ENV is a directory that is created in RAM; by the startup-sequence. It is used as temporary storage by the operating (ENV)ironment. Have a look at the startup-sequence on the disk you are using. It should have these lines in it somewhere.

```
MakeDir RAM:ENV  
Assign ENV: RAM:ENV
```

If you can't find them, put them in. This will take care of that problem. The commodities library can be found in the LIBS directory of most WB2 disks and just needs to be copied into the same directory on the disk you are using.  
**DAVE**

The programs you sent me are great and will be included on a future coverdisk. I would like to hear from your friend who wrote them as well, so pass on my regards. The work done by Australian programmers is of tremendous interest to us. It doesn't matter what language is used, if it is written for the Amiga (PD or Commercial) we want to look at it. We will include any quality PD program on the coverdisk when possible and review anything commercial in an attempt to help Australians make their mark.

In response to your suggestions I have made some changes to the subscription page which should suit your needs (I hope). I am also going to initiate a Q & A column so "If you have any questions, on any Amiga related subject, send them in". We have a very knowledgeable crew of people that can answer just about any question. Send your questions to:

**OZAmiga Q & A**  
**PO Box 567**  
**Mirrabeeka**  
**WA 6061**

As for the advertising, well I haven't been pushing advertising much as yet but I will be starting that soon.

Finally I hope you get some response to your digitising idea.  
Regards,  
Dave

Dear David,

Well thanks for printing my last letter, it was a surprise (I was grinning like an idiot when I saw it in the newsagent) and a massive help (Thanks Raff). My problem turned out to be the CIA chip. Keep up the good work with the mag.

I would like to suggest you put more practical examples in the Amos section. It is always easier to learn programming if you have examples to look at.

I have included in my letter, a disk containing some programs for inclusion on the coverdisk. They were written by a friend of mine right here in Campbelltown. Please let me know what you think of them.

I think it would be a good idea to include a section for the ordering of back issues on the subscription page. I would also like to see a Q & A column and more ads. You asked for suggestions, you get suggestions.

One final thing, if anyone is interested in any digitised graphics for a workbench backdrop or what ever, I'd be more than willing to help. Just send me the information and a few \$\$\$ and I'll do what I can. If you want something specific then send me a video tape of it, I can do all the screen modes including 24 bit. I charge \$5 per disk of pics and \$3 for return post of your video. Please send VHS tapes only. The address to send your letters to is:

**Rodney Norton**  
**PO Box 456X**  
**Leumeah**  
**NSW 2560**

Thank you time and keep up the good work.

Regards,  
Rodney Norton  
NSW

Dear OZAmiga,

I have the 7th edition of your magazine, which I have enjoyed immensely. It is an informative and useful resource, particularly for my programming. I would like to subscribe and order back issues.

Thanks for your time and a great magazine.

Corey Snell  
NSW

Dear Corey,

You have given us high praise and I hope we can continue to meet your needs. You have named the OZAmiga a programming resource and for that I thank you, it is exactly where we are trying to steer the magazine.

Being a programmer, you may wish to send in some information about yourself to include in Programming Pals.

All the best,  
Dave

Dear Rodney,

Maybe when you get this edition someone else will see you and recognise the grin...

Raff sends his regards and was glad to help. I have passed your Amos suggestions on to Neil and you will probably see the appearance of those examples in future Amos sections.

# Chris Leathley

## is

# PROGRAMMING

# in ASSEMBLY

# PART 6

### BITPLANES, PLAYFIELDS and BITMAPS PART II

Well here we are again all set for another lesson on Amiga assembler. This edition I will be talking about high-resolution mode, dual playfields and hardware assisted scrolling.

#### HIGH-RESOLUTION MODE

The Amiga is capable of displaying pictures that are 640 pixels wide instead of the normal 320. In this mode the Amiga works very hard to display all the extra pixels in the same amount of time as it takes the display 320 pixels. Because of this a high-res picture can have a maximum of 16 colour. Even this makes the Amiga run slower. The Workbench or CLI screens are in high-res mode. IF you change the number of colours in one of the better preferences programs to a higher amount then you will see what I mean.

As far as we are concerned, a high-res picture requires twice as much memory as a lo-res. As we know, a normal lo-res picture uses 40 bytes to store the 320 pixels ( $320/8 = 40$ ), however since high-res has twice the number of pixels to display it will need 80 bytes per line ( $640/8 = 80$ ).

There isn't much difference in telling the Amiga to display a high-res picture instead of a lo-res one. All we have to do is set bit 15 in BPLCON0 (\$00DFF100) and tell the data fetch registers (DFFSTRT (\$00DFF092) and DFFSTOP (\$00DFF094)) to start just a little bit later.

We add the value 4 to both these registers to come up with \$003C and \$00D4 (instead of \$0038 & \$00D0). The reason for this is the way the Amiga display DMA cycles work with the monitor synchronization. It

colour cycle routine on part of the picture to make it look slightly better.

#### DUAL PLAYFIELD MODE

Up to now we have only been dealing with one level of playfield. The Amiga has a mode called "dual playfield" which allows two independent playfields to be displayed. One playfield is displayed directly in front of the second one. For example you could have a tank shooting game (like battlezone) with the action in background while a control panel sits over that. See FIGURE 1.

You can then change either the foreground or background without worrying about graphic clashes. You can also move the two playfields independently.

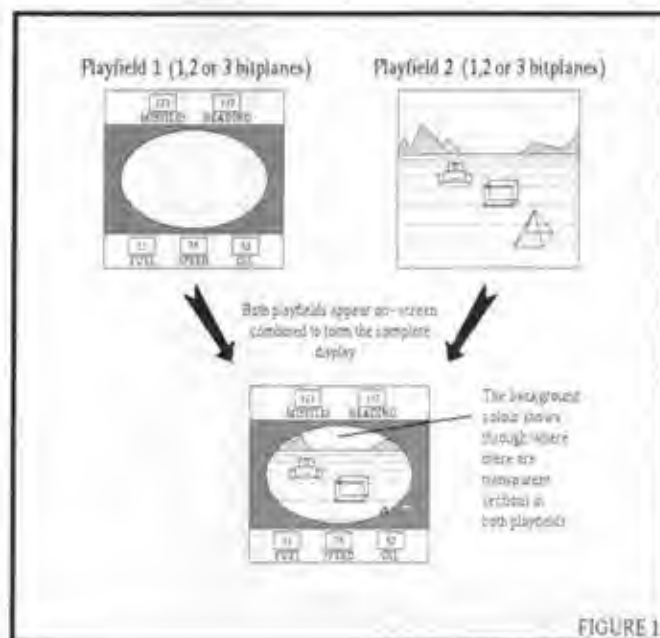


FIGURE 1

requires just that little bit of extra time to get the cycles to align properly.

Example program BITPLANE7.s will turn on a high-res picture for you while BITPLANE8.s will use a

A dual playfield differs only slightly from a normal single playfield.

\* Each playfield in a dual display is formed from one, two or three bitplanes



\* The colours from each playfield (up to 7 plus transparents) are taken from different colour registers. Playfield 1 uses colours 0 to 7 while playfield 2 is assigned colours 8 to 15.

NOTE: Colour 8 is transparent and will not be displayed. It is set by the hardware to colour 0.

register BPLCON2 (\$00DFF104). When PF2PRI = 1 playfield 2 has priority over playfield 1. This register also controls the relative priority of playfields and sprites and will be discussed when we do sprites.

Both playfields can be of different sizes and can be scrolled separately.

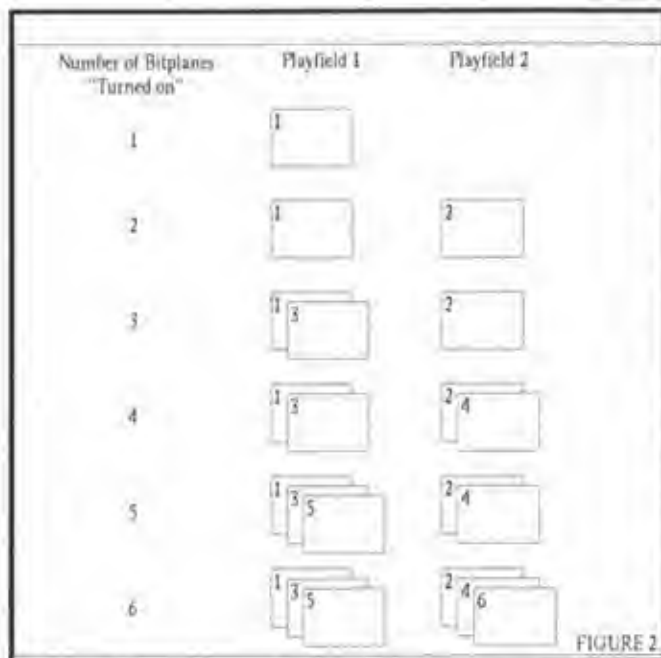


FIGURE 2

## BIT PLANE ASSIGNMENT

The three odd numbered bit-planes (1, 3 and 5) are reserved by the hardware for playfield 1. Playfield 2 uses bitplanes (2, 4 and 6). The bitplanes are assigned alternately to each playfield as shown in FIGURE 2.

NOTE: as shown in the diagram you can't have a front playfield of 3 bitplanes and a back playfield of only 1 (I forgot this when I was writing the example programs, it caused me to redraw one of the pictures again). Also note that in high-res mode you are only allowed a maximum of 2 bitplanes in each playfield.

## DUAL PLAYFIELD PRIORITY AND CONTROL

The playfield order can be changed (ie. playfield 2 is above playfield 1) by changing bit 6 (PF2PRI) in

To turn on Dual playfield mode you write a 1 to bit 10 (DBLPF) of the BPLCON0 register (see last issue). Selecting this mode changes the way the hardware groups the bitplanes together and colour interpretation.

An interesting note is that the game Lionheart uses dual playfields. 3 bitplanes for the front display (graphics and monsters) and 2 bitplanes for the

background effects. It then uses the copper to parallax scroll the background quite easily. If you have seen the game then you will know that the effect is quite pleasing.

## DISPLAYING A PICTURE BIGGER THAN THE DISPLAY WINDOW

Most of the time we will be using lo-res mode. But, what if you want to display a picture that is wider than the on screen window. (see FIGURE 3.)

To do this we must play around with the modulo's so that the correct data is fetched for each line of the

display. As an example, assume the display window is the standard 320 pixels wide, so 40 bytes are to be displayed on each line. We have a big picture that is exactly twice as wide. (80 bytes) On a display window that is showing only 40 bytes we must tell it to skip the other 40 bytes and go to the correct position on the next line.

The modulo registers do this for us. What the hardware does is, when it has finished drawing a line of data from the bitplane address pointers, it adds the modulo to this address so it gets to the correct starting position for the next line of the display. When the beam is drawing the display it keeps track of the current display data address, so after it has finished drawing 320 pixels of data it holds the address START+40. The modulo keeps the difference between the width of the bitmap and the display window size. In our case the modulo will be 40.

$$(40+40 = 80)$$

A few clever things can be done with the modulo. It can be used to shrink the screen by half or to reverse the image. (much like the reflection in most demos these days). What they do is that, at some position on the screen they tell the modulo to go backwards in memory (by giving it a negative number twice that the width of the bitmap). ie. if you are displaying a bitmap of 40 bytes then you would have to put -80 in the modulus. This is because (as mentioned above) when the beam has finished drawing a line it holds the address of that position. By adding -80 to it, we tell it to go back to that start of the current line and then to the start of the previous line. The example program BITPLANE9.s will illustrate this with a high-res screen.

## HARDWARE ASSISTED SCROLLING

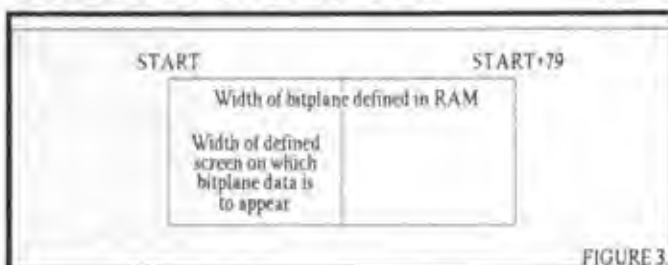


FIGURE 3

We now know that the screen can be moved horizontally in steps of 16 pixels by adding 2 to the bitplane pointers.

Finally, after much waiting we now see the release of the much celebrated PC emulator for the Amiga.

In this technological world where it seems everything needs to be PC compatible or it just doesn't make it in the market place, the advent of PC TASK by Chris Hames was a welcome addition to the range of Amiga software available.

Being able to use PC software



## Version 2

Another useful option that is available within PC Task is the ability to set PRIORITY. With Priority selected PC Task will be given preference over other functioning tasks.

The manual is very helpful when it comes to getting the largest amount of available memory and speed for use with your PC software.

Unfortunately some of the old GVP 68030 Accelerator boards use a PAL (a type of computer chip) that will not allow the reading/writing from odd locations. This can

cause the 68020+ version of PC Task to hang. Not to worry, I am assured that a replacement can be obtained from GVP to rectify this problem.

### Conclusion:

If you have ever wanted to run PC software but couldn't afford the high priced hardware bridgeboards, then this is most definitely the way to go.

With a low cost of \$XX.XX PC Task is another example of the high quality Amiga software being written in Australia. I give my wholehearted congratulations to Chris on the production of this astounding addition to the Amiga operating environment.

Now lets see someone write one that goes the other way around. HeHeHe.

David Reeves



without having to go to the expense of a hardware Bridgeboard, opens up a whole new world to Amiga owners.

The multitasking abilities of the Amiga have set it apart from the ordinary PCs and PC Task will work entirely independent of the computer system. Thus PC Task becomes just another application screen that can be switched to the back or front as needed.

The emulator is able to support two floppy drives as well as two hard drives so that you have a very versatile environment in which to work.

Although MSDOS is not supplied with PC Task, it is entirely workable and the writers suggest version 3.3 or version 5 for best results.

PC Task requires an Amiga 500, 600, 1000, 1200, 2000, 3000, 3000T, 4000 with at least 512k of ram (although some features need 1 meg). Included on the disk are separate versions of the

program for use with 68000, 68010 and 68020+. You must be running workbench 1.2 or higher (not too difficult).

PC Task will give you the equivalent of these screen modes:

MDA  
CGA  
EGA  
VGA

Although most programs will run using one of the above modes, there are some games that use non-standard screen modes and features of EGA/VGA, so don't expect all games to run without problems.



PC-Task V2.03. Copyright 1992-93 Chris Hames. All rights reserved.

To start the mouse driver press LeftAmiga-P.  
To quit press the left & right Amiga keys and Del.

Memory Available: 640K (location 5002EC998 allocated 1024K)  
Drive A is: DF0  
Drive B is: DF1  
HardDrive C is: Unavailable  
HardDrive D is: Unavailable

You should insert a bootable(system) 720K MSDOS disk now.  
It is not supplied with PC-Task. If you have a IBM PC you can usually create such a disk by inserting a 3.5 inch disk into the real IBM and at a MSDOS prompt type:-  
format a: /s /n:9' or similar command.  
\*\* Error Booting A. Press a key to try again. \*\*



The Amiga has a hardware assisted scrolling register that allows a fine scroll to be applied to the displayed bitmap. The BPLCON1 (\$00DFF102) register is used for this. The register is split up into two parts. First a smooth scroll value can only be between 0 and 15 (\$0 to \$F). The lower 4 bits of BPLCON1 contain the scroll value for the even planes while bits 4 to 7 are used for odd planes. This is useful for dual playfield mode. When scrolling a single playfield you will have to copy the even scroll value into the odd one so the bitplanes scroll smoothly together.

How does this all work. Well the BPLCON1 register is used as a delay timer for the screen DMA. At the start of each line it waits the value in BPLCON1 before it starts drawing the bitplane data onto the screen. Basically all it does is shift the screen to the right. Even though it has limited abilities it is one of the most important hardware register that is used by all Amiga games. Without it the processor would get a hernia trying to simulate it. It makes

scrolling game maps a whole lot simpler and is why the Amiga can scroll a whole screen while a 486 running 10 times faster causes it's scroll to jerk all the time.

A slight bug with the scroll delay value is that since it delays the start of the drawing it leaves a blank line of various widths down the left hand side of the display. To overcome this the DFFSTRT (data fetch start) (\$00DFF092) must be told to start displaying the picture one word (16 pixels) earlier, by subtracting 8 from it. This hides this embarrassing side effect. This brings us to another point. Since we are getting a extra word, the bitmap now has to be 42 bytes wide. On larger bitmaps the modulo has to be adjusted by subtracting 2 from it.

DFFSTOP doesn't have to be changed since the delay is on the left side of the screen.

Example program BITPLANE10.s will scroll the high-res picture used

in the above example programs left and right. About half way it will set the DFFSTRT back to it's normal position so you can clearly see this anomaly.

The programs BITPLANE11.s and BITPLANE12.s show how a dual playfield with a scrolling picture can be used for satisfying results.

Well that's it for another issue. Next issue I will be covering that mega mighty BLITTER. This is the chip that makes drawing and moving graphics on a screen so much easier (you still have to do a bit of work, but its heaps better than doing it all with the 68000 (just as an Atari!!;-))

Till then, live long and program even longer.

*ZAPHOD*

# The 68060

## From Motorola

Just announced at the micro-processor forum, is the new chip from motorola, the 68060. The chip is based on the new 68040 but the internal architecture has been totally redesigned. The chip now integrates a superscalar, superpipelined integer unit which allows the execution of two instructions at the same time. The instruction decoding has also been made a lot more efficient. This 68060 also runs on a low 3.3 volts instead of the old 5 volt format.

When first released, you will have a choice of speeds, either 50 or 60mhz. These speeds are the same as the 68040 but because the internals have been redesigned it runs 3-4 times faster than a 40. Compilers can make code run 15%-20% faster by using the superscalar operation on the chip, but that will

**For those of you who are wondering what happened to the 68050? Well the number was registered by a washing machine company and is now a very fast clothes washer.**

only work on a 68060 and is not downwards compatible.

Some of the more technical specifications:

- \* Superscalar / Superpipelined
- \* Hardware execution (no micro code)

- \* Full IEEE floating point (from the 88110) in the chip.
- \* Memory Management Unit
- \* Dual 8k caches (code and data)
- \* 256 entry branch target cache (super quick jump tables)
- \* Dual 64 entry MMU's
- \* 50-66 Mhz at first production (will reach up to 100mhz as the product matures)
- \* 3.3 volts, .05um, TLM CMOS, Fully static design

The static operation allows sections of the chip which are currently not operating to be shut down, this reduces the amount of electricity needed to power the chip, so the chip runs a lot cooler. (this mode is switchable)

The 68080 is due out onto the market in 1994.

*ZAPHOD*



# Learn

with  
Mark  
Little

# PART 3

Welcome to the third article on the 'C' language. Before we get into the control structures, how did you go on the home work? If you'd like to see how I would link the structures together, look in the "Learn\_C" for the source "Homework.c" which show a couple of possible solutions.

One of the fundamental control structures in nearly every computer language is the "if" statement, and 'C' is no different. The "if" statement combines with the "else" statement for more precise control. Like all other statements in 'C', statements enclosed in curly braces {} count as a single statement, so "if" and "else" can refer to a simple statement or a complex set of statements. This is a typical "if - else" set of statements:

```
if(A == B)
printf("A = B\n");
else
{
printf("A != B\n");
printf("They are not equal\n");
}
After the if ...;
```

The first thing to notice is that the test uses double equal characters. If you only use a single equals, then A will be set to B and "A = B" will nearly always print unless B is zero! At this stage this may seem a bug, but this property can be used to advantage in complex programs. If A is equal to B, then "A = B" will be displayed. The next instruction executed is the one shown as "After the if". In the Learn-C directory is a sample program "UseIf" which uses the if-else statements. The following table shows the valid test conditions. These tests can compare two numbers

or two characters, but it CANNOT compare arrays or strings (because it is only a medium level language). The "Compare" program on disk show how to compare arrays and strings.

Test Condition	Symbol
Equal to	==
Not Equal to	!=
Greater than	>
Greater than or equal to	>=
Less than	<
Less than or equal to	<=

If there are many comparisons to be done, then a series of if-else statements can be used like this:

```
if (A == 0)
DoSomething();
else
if (A == 1)
DoSomethingElse();
else
if (A == ...
```

This can get quite cumbersome if there are a lot of choices. 'C' provides a much neater way of displaying these choices with the switch-case statements. The "switch" is the value which is compared in turn to the 'case' values. If a match is made, then the code after the case statement executes until a "break" statement or the end of the switch code. To take into account the times when there isn't a match, there is the optional "default" statement. Following is a small example of switch-case:

```
switch(A)
{
case 'Y':
printf("You selected YES\n");
break;
case 'N':
printf("You selected NO\n");
break;
default:
printf("You couldn't make up your mind\n");
break; /* Optional - See Examples on Disk */
}
```

The program "UseSwitch" shows a full example of using the switch statement and what happens if a "break" statement is omitted.

In many programs, a set of instructions executes until a certain event occurs. These are looping statements. The simplest is the "while" statement. This statement is used in the following context - while the number is less than 10, print the number. If the test fails during the first test, the code is never executed. This is 'C' equivalent:

```
Number = 0;
while (Number < 10)
Printf("The number is %d\n",Number++);
```

This will print out the numbers from 0 to 9. The "++" after Number increments Number AFTER it has been used. Using the program "UseWhile" on the disk change the "++" to before the Number and see what is displayed. Change the initial value of Number from 0 to 20 and see if anything is printed out.

If you wish the test carried out AFTER the code has been executed at least once, then use the do-while statements. For example:

```
Count = 10;
do
{
printf("Count = %d\n,Count--);
} while (Count > 0);
```

Have a think about what you would expect to happen with this code and then run "UseDo" to see if you were correct.

Perhaps the most versatile looping statement in 'C' is "for" which takes the following arguments:

```
for(initial;test;expression)
{
....
};
```



# PROGRAMMING PALS

As promised, this edition sees the start of Programming Pals. It is designed to be an available help list for new and experienced programmers alike. Each person that agreed to appear in this section is prepared to take calls or letters from people in need of assistance. Write to them, use them but please give a little back. If you feel you can help others yourself, send your details to the address below.

NAME:	STATE	CONTACT	ASS	C	AMOS	BASIC	CAN DO	AREXX	OTHER
Jeremy Eayrs	NSW	PO Box 29 Wangi 2267			●				
Chris Leathley	WA	PO Box 567 Mirrabooka 6061	●						
Neil McKnight	WA	(098) 411435			●				
Stephen Pike	NSW	(02) 584 1484 or pager 751 1073		●			●		
Trevor Parker	NSW	(066) 86 7660		●			●	●	

**Programming Pals PO Box 567 Mirrabooka WA 6061**

The "initial" statement is normally used to set the initial value of a counter. The "test" is the test used to continue the execution of the loop and the "expression" usually increments (or in some way alters) the values under test. Let's try to use the "for" statement to print out the numbers between 0 and 9 inclusive.

```
for(i = 0; i < 10; i++)
    printf("The number is %d\n", i);
```

In this code fragment, "i" is first set to the initial value of 0. The test (i < 10) is then carried out. If the test is TRUE, then the code of the loop (printf) executes. After the code executes, the expression (i++) is executed. The program will then go back to the test and so on until the test fails. Any of the three arguments can be omitted from the 'for' statement, but the semi-colons must remain. To make a loop which repeats forever, simply use:

```
for(;;)
{
    ...
}
```

Because there is no test criteria, the loop will not exit in the normal fashion. The 'break' and 'return' statements finish the loop. See the programs on disk for examples of how to use 'break' and 'return'.

Another statement used in loops is the "continue" statement. This statement causes the loop to skip the current iteration and start with the next iteration. Here is an example of using "continue" to control the flow.

```
for (i = 0; i < SIZE; i++)
{
    if (a[i] > 100)
        continue;
    printf("%d\n", a[i]);
}
```

This code fragment will only print values in the "a" array which are less than 100. This statement is used when it is too complicated to exit cleanly out of a lot of conditional statements. The "UseFor" program shows some examples.

The 'C' language has the infamous "goto" statement which jumps from one position in the code to another. Many purists will say that using "goto" is a sin but if used wisely, it can simplify exiting code which has many levels of

testing. When using "goto", a label must be inserted to show where the program is to "goto". A label is a word followed by a colon (:). Below is an example of where "goto" can be useful.

```
for (i = 0; i < SIZE; i++)
for (j = 0; j < WIDTH; j++)
for (k = 0; k < HEIGHT; k++)
for (m = 0; m < PLANES; m++)
{
    if (Value[i,j,k,m] < 0) goto Error;
    ...
}
return;

Error:
Process the Error
```

In this case, if an error is found (Value[i,j,k,m] < 0), the loops do not need to complete before the routine ends. The "goto" statement forces the program to immediately exit the loops without a lot of overhead. Of course, code can always be written without a "goto", so whether you use it or not is a personal decision. If you do use it, do so sparingly and never jump backwards or into a loop.

Well, that's about it for another edition. Next time we'll look at functions and then combine everything we've done so far into a practical program. Have fun and 'C' you again next time.



# EDUCATION



This section is designed to show off the different types of educational software that are available. Not every program looked at here will be new to the market place but each will have strong educational value. Some will be aimed at very young students whilst others will be further advanced and need the assistance of an adult. Who knows, the older kids may even learn something as well.



to use  
I I  
using  
you are

or not but  
recommend  
them only when  
really stuck.

Aimed at people aged 12 to adult, this program will have you tearing your's and everybody else's hair out at the roots, as you struggle to find the key to each puzzle.

## SPECIAL NOTE TO PARENTS:

This game allows your children to experiment with time, astronomy, robotics, codes and ciphers, logic and maths. We hope, being thus introduced, they will be motivated into studying and exploring the fascinating world of scientific principles.



Presented in an entertaining manner, this game is designed to grab and keep the attention of anyone with an enquiring mind.

Works on versions 1 & 2 of Workbench and requires 1 meg of ram. Can also be installed on a harddrive.  
RRP \$39.95

Welcome to the castle of Dr Brain. The good doctor has been advertising for a lab assistant and you may just be the one

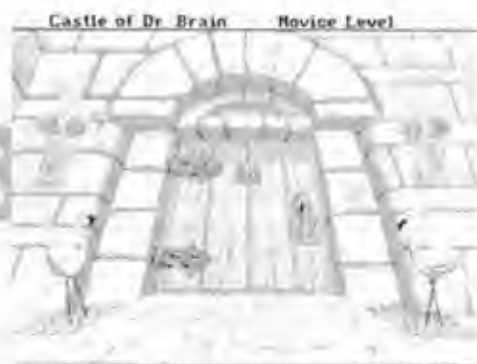
for the job. Bring along your copy of the advert and your best problem solving skills, because you are going to need them. This is a real test of your brain power.

Within the castle of Dr Brain you will need to apply many different ways of thinking in order to solve the puzzles set by the doctor.

Some of the puzzles require forward planning, others test your ability to recognise patterns, still others depend on your use of logic. All of them take persistence, you may need to attempt one puzzle many times in order to solve it.

The first puzzle is designed to test your sound memory skills. You need to listen to the notes played by the stones surrounding the main entry door and then replay them in the correct order. If you can't do this one, then you won't even get into the castle.

At the beginning of the game you are given one hint coin. You can earn more as you progress through the many different puzzles. When you place the coin in the slot provided, it supplies you with a hint. The hints can make what you have to do clear or they can make it more obscure, it is really your decision





## Thanks to Multiline for access to the programs.

### ARTILLERUS UPDATE...

If you remember a few issues back I mentioned a shareware game called Artillerus which was a port of the IBM game Scorched Earth, well there is a new version just hit town and it is much better than the last one. If you like the idea of shooting at your friend's tank or challenging the computer then this is the game.

### NEITHER RAIN NOR SLEET...

Serious BBS mail junkies who are running points will have heard of the new kid on the block. It is a program called Spot, written by the man who bought you Powerpacker, Nico Francois. This program is amazing! It



sings, it dances, it does everything. It even lets you compress your message base using the Powerpacker library - if you register. There are far too many features to list but it is every Amiga point's dream. Spot is the best new Public Domain program of the year so far.

Another point program is Foozle. It has just been updated to 1.03 and to be quite honest there is no visible difference. There is supposed to be a much updated version coming soon so let's all hope that it gets here soon.



### WITH A CLICK AND A WHIRR...

If you are like me and love the ease of pull down menus then this program is for you. ToolManager2.1 lets you configure your own Tools menu with hot keys on Workbench. But that's not

# PD

### NOW SHOWING...

Eric Schwartz has done it again. Yes folks he has churned out yet another funny and well put together cartoon for the Amiga. This one is called Bait-Masking and is about a worm on a hook and it's efforts not to get eaten by passing fish.

### A PICTURE TELLS A THOUSAND WORDS...

For those of you with printers get your hands on TiffView. The archive is called TV111.lha and it is a damn good program. What it does is let you load in an IFF picture and play around with the size of it before printing. If you have a picture you want to print out half size you load it in, halve the size in the requester window then select print. The picture on the screen never changes size, which is one of the reasons the program is so fast. You aren't limited to halving either. The size can be set to anything you want, even larger.

Another interesting graphic program is ViewTek. Said to let the Amiga user view GIF, JPEG, IFF pictures and animations it is a pretty handy thing to have around. Saves having to clutter your drive with a viewer for each type.

### HOT HOT HOT ...

7th August 1993. I have just got my hands on a nifty utility for workbench 2 or 3 owners. Called PPGuide it lets you view AmigaGuide files that have been packed using Powerpacker. This program joins the rest of the family - PPMore, PPAanim and PPSHOW. Also new is VirusChecker6.29. Now made compatible with BootBlock library. May have a bug because I can't seem to get it to stay running.

Another of those damn reminder programs landed on my hard drive today as well. Called Stickit it is easy to use and not too much of a burden on the system and the notes you leave appear on boot up.

All the software listed above is either Public Domain or Shareware. If you like something you are using then pay for it. A commercial product to do the same job would cost you a lot more and the more people that pay, the more programmers will want to support the Amiga.





# OVER THE WIRE

Well, hello and welcome once again to OZAmiga's communications column. In future episodes, I would like to cover as many Amiga related communications areas as possible, but, if you have any suggestions, or questions related to communications, please feel free to write in. I hope to be able to help you explore the mysterious world of communications in a free and easily readable form.

That said, let's get on with the job.

This issue's column will be about the usage of two very popular Amiga communications programs, NComm, and Term. NComm is shareware and in fact is included on last issue's

**NComm is what I, and many other Amigans consider to be the best comms program ever for any computer.**

coverdisk, and Term in its various revisions (currently up to V3.3 that I'm aware of), is freeware. NComm is arguably the best comms program for Revision 1.2/1.3 machines, while Term, unfortunately, functions only under WorkBench 2 and up, and is what I, and many other Amigans consider to be the best comms program ever for any computer.

Firstly though, I will discuss NComm. If

you own a revision 1.2 or 1.3 kickstart machine then grab yourself a copy of NComm and load her up, the copy on last month's coverdisk will do the trick nicely. Firstly to configure NComm, I will assume that you are going to use it to dial up your favourite BBS's, so the settings and parameters I will describe will be with this in mind.

Pull down the TRANSFER menu and select OPTIONS, turn on the following settings if they are not already on in your copy of NComm. Turn on:

ZMODEM RESUME.  
ZMODEM AUTODL.  
ZMODEM ACK.

These settings will allow you to use ZModem most conveniently, as uploads and downloads will automatically take place without you pulling down a menu, and telling NComm to begin an upload or begin a download.

Now, pull down the TRANSFER menu, go to the sub menu PROTOCOL and select Z-Modem, if it is not already selected. While in the TRANSFER menu, don't forget to set up the directories that you want the downloads to go into, and where the program can find the files you wish to upload. If you have a single floppy based system, you are best off mounting a RAM DISK (see you Amiga's manuals on how to do this if you don't already know.) and setting your download path to RAM, then

copying your goodies back out of it later. If you have 2 or more floppies, try setting downloads to DFL: for example, and if you have a hard drive, well, you can set your directories wherever you please, but for convenience, I recommend the way mine are set up. I have a Comms drawer and under this are Uploads, Downloads and the Term drawers. Obviously, all of my uploads go to the uploads drawer, and all of my downloads to the downloads drawer, and Term occupies its own drawer so that I can upgrade it or replace it as necessary when upgrades become available.

To set up your COM settings, pull down the COM menu and select from the BAUD RATE setting, a rate to suit your modem. E.g. for a straight 2400 modem with no error correction or data compression abilities, select 2400. For a 9600 modem that is using error correction, like MNP4 (or RELIABLE mode) for example, you will need to use a speed faster than the modem's raw throughput speed. This let's you take advantage of the faster data rate that MNP4 and the like can give you. Set it to 19200 and make sure that your modem is set to CONSTANT SPEED INTERFACE. If in doubt, look in your modem's handbook about how to enable this feature. Also, in the COM menu, set DATA LENGTH to 8 bits, PARITY to none, STOP BITS to 1, DUPLEX to full, and with the HANDSHAKING options there are 2 ways to go here. If you are using a modem with NO error correction

## PC USERS - WHO NEEDS THEM?





or data compression, set the handshaking to NONE, and if you are using a modem with error correction and/or data compression enabled, set this to RTS/CTS, if your modem can handle **HARDWARE HANDSHAKING** (check your manual). If your modem is unable to do **HARDWARE HANDSHAKING** set this option to XON XOFF or **SOFTWARE HANDSHAKING**. Hardware handshaking is preferable to software handshaking because there are less overheads involved, and therefore you will get a better throughput. Next set the **CHARACTER SET** in the **TRANSLATE** menu to **IBN**, this may require some trial and error on your part here, as I have found that NComm is not terribly good at doing IBM style ANSI characters. If when you are logged onto an IBM based bulletin board, and the screens you see don't look as they should, i.e. funny characters and smiley faces instead of nicely drawn lines and boxes for example, try setting up to a different character set and try again.

Last but not least, you can set up your phone book with your favourite BBS's numbers. Also, if your modem is a bit of an oddball, and doesn't adhere strictly to the Hayes commands, then you may need to set up some parameters under the **MODEM SETUP** sub menu under the **PHONE** menu. The standard settings will most probably work here though, so don't worry too much about these settings. There are several other settings and parameters within NComm's many menus, the standard ones will most probably work OK though. I can't give you a full run down here, as well, it would take lots of pages of typing, and well, I don't know about half of them myself! Read the supplied documents for NComm if you want to muck about.

Next up is **TERM**.

Term, in my case, version 3.2, is fairly easy to setup. Pull down the **SETTINGS** menu and you will find all that you need. Under **Serial** you set up your baud rate etc with the same considerations as with NComm. The same applies to the modem setting, but the standard settings here again will suffice for most modems. You will have to set your upload and download paths via the **PATHS** sub menu, and also select your **TRANSFER PROTOCOL**. Term uses external transfer protocols, so when you go to select one a requestor will appear, and you can select from it **XPRZModem**. This method of using external protocols is a great idea, as when newer or revised protocols become available Term can make full use of them immediately, as opposed to other programs which use their own **INTERNAL** protocols which cannot be changed. Term also allows you to use a different serial port driver, I use **Baud Bandit**, device for example as it allows better multitasking with a standard unaccelerated machine than

••• OZAmiga BBS List •••			
<b>NSW</b>			
Amiga Connection	(02)970 6444	<b>Tas</b>	
Amiga File Server	(02)876 8965	Pointless	(003)91 2042
Amioz	(02)627 4442	Tassie Databank	(003)44 9762
Amitech Support	(02)544 1248	Nightmare	(002)78 1363
Amy	(02)607 4253	The Dragons Wyer	(002)63 5278
Ausi BBS Registry	(047)35 6789	The Gamblers Corner	(003)40 1301
Games Galore	(042)57 3311		
Merlin	(047)35 6280	<b>Qld</b>	
OzWorld	(02)891 1886	Amiga Resource	(07)265 3369
Pink Board	(02)264 8313	Atom	(07)288 6643
Shadowland	(02)416 6331	Black Cat	(07)394 4826
The Round Table	(043)43 3036	Blitz	(075)72 0719
The Three Amigas	(02)609 4458	Centre Point	(071)28 2773
Wild Side	(042)57 1924	Clown	(074)78 1094
		Comm UG Old	(07)300 6357
<b>Vic</b>		Cyber Matrix	(07)205 2397
Amiga Central	(03)376 7375	Danny's Dugout	(070)91 4080
Amiga World	(059)79 3589	Nexus	(07)245 6190
Amiga Link	(03)792 3918	Nitebreed	(07)274 4092
Club Amiga	(03)527 2835	Omega	(074)79 1583
Crazy Diamond	(03)569 8873	<b>Paradise</b>	<b>(075)97 1717</b>
Jeffs Amiga Board	(051)26 1031	Sidcar Express	(075)46 8253
The Amiga Limits	(03)725 2895	Techniq	(07)273 1879
Crystal Palace	(03)723 7824	The Edge of Reality	(07)886 1886
Yarra Valley	(059)64 3126	The Ice Cave	(070)31 4186
		The Mother Baud	(075)97 2381
<b>ACT</b>			
Amiga Empire	(06)292 6826	<b>WA</b>	
Amiga Frontier	(06)253 1170	Multiline	(09)370 3333
Desktop Utilities	(06)239 6659	Abyss	(09)245 2511
Maestro Modem		Amigalynk	(09)528 5220
Support	(06)299 2189	Coast to Coast	(09)490 1790
Caught in the Act	(06)292 8288	Dark Closet	(09)493 3052
		Flame	(09)380 1095
<b>SA</b>		Future Reality	(09)350 6249
Adelaide Amiga UG	(08)293 5399	Razor Board	(09)472 1438
Mid North	(086)33 0619	The Info. Centre	(09)344 8888
Phone Box	(08)380 5606	White Ghost	(09)488 1177
SA Country Club	(08)284 7992	Wizards Lair	(09)419 5171
The Key Board	(08)344 5354		

does the standard **Serial** device. Term is about right to go straight from the box as they say.

When you have set up everything to your liking, don't forget to **SAVE SETTINGS**. You will find, as I did, that apart from the necessary speed, paths, and protocol settings, most of the other settings within Term, work fine on their default settings. About now you could set up your phonebook if you like, just pull down the **PHONE** menu and select **PHONEBOOK**, it's fairly obvious here how to set it up.

A couple of interesting points to note, when I was setting up my own version of Term, I found some very odd things can happen. I have used earlier versions of Term many times before in the past, but recently a friend from Video and Audio here on the Gold Coast (Thanks Garth!) lent me a Commodore A2630, 68030 accelerator card for my A2000, so I

just thought, well great whack her in, and away we go! But strange and mysterious things began to happen. Firstly, and most obviously because I use it every day, Term, and for that matter, any other communications program I tried, would foul up downloads so much so that my machine frequently locked up part way through a download. This left Term displaying the message, **I/O error number 6 and Hardware Buffer Overrun!** Very odd. I tried this and I tried that, I even







# Coverdisk



Welcome to a 'newlook'  
OZAmiga coverdisk.

When you boot OZAmiga #8 you will be confronted with a 'magazine disk like' interface that will supply you with all the documentation about the programs included on the second disk. Yes! In actual fact you will now get two cover disks on your copy of OZAmiga. The second disk will be crunched on the first.

## ProLaunch



Once you have uncrunched the second disk you will find a new menu program that will knock your socks off. A tiny menu creator aimed at hard drive users that lets you have up to 676 of your favorite programs on pulldown menus at the top of the screen. All with hotkeys no less. A MUST for saving valuable time. This Version is ShareWare and limited to 78 programs.

## SectorEd



This program is a versatile tool for both the novice and hardcore Amigan. SectorEd was written,

# #8

initially, to load a bootblock, allow you to edit the code, then create a checksum so you can save it back to disk. In actual fact you can load any sector from disk, edit in Hex or Ascii, create a checksum and formats disks. A word of warning for the novice....

Please backup any disk you decide to use the program on. If used wrongly this program can upset Dos and even lose data on the disk.

## DirWork



DW is a directory management program used for the purpose of being like a housekeeper for your Amiga. The many inbuilt commands let you view text or pictures, format and copy disks.....

The list goes on. Chris Hames has certainly given we Amigans a top class utility that is fully configurable to suit anyone's needs. Try to find a picture and a sound sample on the cover disk.

## VirusChecker

Again we have included the most recent version of this very good virus detecting utility. Can't be too careful with our disk collection, can we?

## Yacht



Maybe you have played a game like this before? Gameplay is decide by the roll of six die, in an effort to achieve many different combinations or additions of the spots. I'll not say any more. Play Yacht and spend a few recreational hours with some friends. A game for 1 to 4 players.

## CopperPrefs

Have a go at this utility yourself. I guarantee you will be able to produce some special effects with copper bars. Unfortunately the V1.3 Kickstart owners will not be able to use this program WB2.0+ only.

## AutoCli

Nic Wilson has created this program to sit as a background task which incorporates many useful functions including a screen blanker, auto disk formatter, mouse blanker and many more. The big plus is having a cli available at the press of a hotkey. Hence the name AutoCli.

Thanks Nic.

I sincerely hope our cover disk is evolving in a way that agrees with our many readers. We of OZAmiga are dedicated to giving Amigans something special with every issue in an attempt to spread the word about a very powerful home and buisness computer.....

Long live the Amiga!

Any suggestions gladly received.



borrowed another 9600 modem from work, to save hassling the hell out of my friendly local sysop, Barry Ryder of Paradise BBS. (If this looks like a shameless plug for Paradise BBS, well, you're right, it is.) Anyway, to cut a massively frustrating, and very long story short, I have these observations to tell you.

1. BaudBandit.device won't work correctly with an A2630 card in an A2000, causing bulk errors and lockups during up or downloads. So if you have an accelerated machine and are having trouble, try the good old serial.device that is on your WorkBench disks. Mind you, without the accelerator card, BaudBandit.device works great, and does improve multitasking whilst downloading at high speed.

2. Serial.device (in other words the standard serial port driver supplied by Commodore) requires that your modem has DSR, or Data Set Ready, high all the time in order to communicate with it. Not really a major problem, as most modems I have seen allow you to switch this line on via software or switches. I mention this as BaudBandit.device DOESN'T require DSR being high, as apparently this circuit is ignored by the device driver as part of it's normal function. I got caught out by this little fact and it had me swearing at my modem for hours, as whatever I tried to do the modem just sat there with its lights looking at me.

3. Whilst up or downloading at high speed (e.g. 9600 and above) don't expect an unaccelerated Amiga to multitask perfectly. For example, when I'm downloading a fairly large file (like 500k or more), I frequently switch screens and play good old Patience. Quite often whilst playing Patience, or for that matter even reading the directory of my hard disk, I have noticed the odd error here and there appearing in Term's information window, as my poor old A2000 tries to keep up. But don't worry, as most, if not all comms protocols have error detection and correction abilities, and will recover from this situation without undue stress.

See you next edition, when I hope to discuss networking the Amiga with ParNet.

BCNU.

**Raff  
Lerro.**

# Bit Master Software

PO Box 84, Tullamarine, Vic 3043, Tel(018)53 8225

## Lotto Supersystems

Turn the odds your way and WIN!

Lotto Supersystems is the Smart, Cheap and Easy way to increase the odds of winning in lotto games, such as Pools, Tattsлото etc. Playing systems is the key in turning the odds your way and winning more often. However regular lottery systems are far too expensive for the average person or syndicate to play consistently. Lotto Supersystems cuts the cost of regular systems entries, while maintaining the winning edge. This program will allow you to play much larger, more practical and affordable systems. Program includes, Computer System, Smarter number selection methods, User friendly and completely mouse driven, Quick picks and much more.

**\$25.00**

## PD Packs

<b>Game Pack 3</b> <b>BLACKJACK &amp; HEARTS-</b> Two greater card games and <b>NOUGHTS &amp; CROSSES.</b> <b>CROAK - Just like Frogger</b>	<b>Business Pack 1</b> This disk is an ideal Business Starter pack, this includes <b>TYPIST, MONEY MATTERS</b> and <b>SPREADSHEET V1.0</b>
<b>Games Pack 4</b> <b>PACKMAN 92 - This Version</b> is even better than the original, Plus <b>HEMEROIDS, MR WOBBLY</b> and <b>THE SUPER SUCKER II</b>	<b>PD Utilities Pack 2</b> <b>PRINT A CARD - This is an easy to</b> use program. It will make up greeting cards for all occasions.
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<b>Name:</b>	<b>Products Ordered</b>
<b>Address:</b>	
<b>State:</b>	<b>Post Code:</b>
	<b>Total Enclosed \$</b>

Firstly, let me just say this. Hahahaha. Now, a reply to some of the more ridiculous comments made about SoftAGA.

The documentation was written in such a manner as to immediately notify to the average user (non lamer) that the entire project was a joke. AmigaGuide support is SO easy to incorporate, that it should be included with every new program being released. The reader is freely distributable (or something like that)...GET IT. I don't even have any docs on AmigaGuide and I still managed to do it with just one example to look at. Thus, the simple inclusion of the docs in AG format shouldn't have added to the program's apparent authenticity.

Anyone that knows anything about a certain video product, hot in the USA, will certainly have read the various advertisements promoting the Amiga expansion board and software. Now that I have jogged your memory, check it out, then re-read the introduction to SoftAGA. Still think it sounds real? Now, imagine if I'd left this part out: probably triple the number would have been taken in.

Now let me expell some of the myths surrounding the program. It was written in GadsToolsBox and no, I certainly did not write it in CanDo. The inclusion of a hefty randomly generated 'patch' file should have raised a few eyebrows. A fair amount of padding was included in the program itself to make it look like not just an interface.

The program is **NOT** a virus, nor

does it add or change any data on floppy hard or ram disks. Since the user would expect the computer to reset (in some way or other) after running SoftAGA, the loss of any information in memory cannot be considered sympathetically either.

This program was written as a response to some of the rather annoying rumours/announcements made in the last year about supposed new devices, hardware hacks (ECS->AGA), this was even dangerous, at least my program is totally harmless), new computers (remember the pathetic A5000 no written by someone who was barely literate), and the even more annoying people who firmly believe these Vapourware 'releases' and use up everyone's time by discussing them on the network message sections, boring the life out of all the normal users who know that the entire thing must be total bullshit.

To prove the above, one only has to read some of the comments written on the various nets about SoftAGA. These range from the "A friend got it to work" variety, to the "It looks so professional it **MUST** be real". I was amazed and appalled at the authority with which these people spewed forth such crap. Did they make it up as they typed, or did a friend tell them this pseudo information? Let this be a warning to readers of the networks that you should NEVER, EVER believe ANYTHING written in a public message base, even if it is supported by a number of other messages, unless you know of it first hand.

**P.S. This has been confirmed by Commodore!!!!**

21

# BEGINNINGS



Prefs

For the new user.



Prefs

In Beginnings this edition we will be covering "Preferences", what they do and how to set them up your own way. Although Prefs looks like a program, it is in fact a drawer into your Preference Editors. I will first cover Workbench version 1.3 and then go on to version 2.1

Obviously I don't want to go into as much detail as the manuals, so I am summarizing into plain English.

Due to the advanced design of Workbench 2, many more options are available to those users who have upgraded or purchased one of the latest machines. Again I must suggest to all 1.3 users that upgrading to V2.1 or better is a definite must if you want to seriously use the Amiga (programmers excluded). Anyway, let's get started.

## VERSION 1.3

When you open the "Prefs" drawer on your workbench disk, you will be confronted by a number of icons. The largest of these is "Preferences". Pointer, Printer and Serial are options that can be altered from within the main preferences program. I will look at each



Fig 1

option, covering what it does and how you can use it to customise your workbench to your own tastes. Start by double clicking on the "Preferences" icon to open the window shown in Fig 1.

In this window you can see three buttons that will take you to other windows to alter other preferences. Double click on the "edit Pointer" button and we will start there.

**POINTER** - With this option you can change your pointer to suit your needs. As you can see in Fig 2 there are four boxes which represent the four colour workbench palette. Each box has a picture of the current pointer, thus you can determine how visible a new pointer would be against each as a



Fig 2

background. The Clear, Restore, Save and Cancel buttons are pretty self explanatory. I suggest you play around with the pointer a bit and see if you can come up with something to suit your needs.

**PRINTER** - This is the window in which you set all of the options the computer needs to be able to use a printer. First of all, in the top left corner of the window (Fig 3) you make the selection between Serial and Parallel. Most printers are parallel, so unless you specifically bought a serial printer, expect it to be parallel. The white box surrounding one of these denotes your selection.



Fig 3

To the right is the "Printer Driver Selection Area". A newly copied workbench disk will only have "Custom" and "Generic" displayed in the available window. You will find a large selection of drivers on the Amiga Basic Extras disk. These can be installed for use by opening the "Utilities" drawer on your WB disk and double clicking on the "Install Printer" icon. This will bring up a list of the available drivers and ask you to select which to use. With the driver ready, you should now be able to print from programs that use the Prefs printer.

There are a number of other options in this window including Paper size, Paper type and Print quality. Each option needs to be set according to

your needs at the time. Additionally there are two buttons on this window



Fig 4



Fig 5

that are labeled "Graphic 1" and "Graphic 2".

These will open further windows with the options available for the printing of pictures (Fig 4 & 5). I will not go into detail with these screens as a bit of experimenting will reveal just about all there is to know about what they do.

**CHANGE SERIAL** - The Serial port is usually used to connect your computer to a modem. There are only seven



Fig 6

options in this area (Fig 6) and they all need to be set correctly if you are going to communicate with another computer.

The BAUD Rate is set to the speed indicated by that on your modem (eg. 1200, 2400, 9600). Read and Write bits are set to 8, while the Stop bit is set to 1. Parity should be set to "None" and handshaking to "xON/xOFF". These settings are pretty much standard to all PCs and will be covered in much more detail at a later stage.

Back to the main Preferences window and there are still a few options to be set. The "Time" and "Date" are easily set by clicking on the component you wish to change and then using the up and down arrows to attain the desired value. They will only remain set if your computer is equipped with a battery back-up. The "Key Repeat Delay", refers to the time it takes to start repeating a character if you hold down the key on the keyboard. The "Key Repeat Speed", on the other hand is usually set to the highest possible value, so that after the first repeat the

Cont...18



# C.S.I.R.O. and Amiga

The office of the CSIRO in Perth started using the Amiga back in 1988. They developed their own software to utilise the Hold And Modify capabilities when comparing satellite images. They put together a package which included the IMAGTECH software and the Amiga to run it on, then they sold it to various institutions like universities.

At the time the PC based machines had no really effective way to compete in this area but since then they have progressed.

Now it looks as if the trusty Amiga is going to be replaced by the new PCs. There are no longer the price advantages associated with the Amiga and the PC based systems have improved to the extent of being able to compete graphically.

It will be a sad day for all Amiga users when large corporations start dumping the Amiga in favor of DOS based systems. We need to see a lot more promotion of Amiga product in the



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Note: WB1.3 users are limited to a four colour workbench palette. You can switch "Interlace" on or off from here as well. For those of you that don't know, Interlace is a high resolution screen mode. It is not practical to use with a TV or standard monitor as the screen tends to flicker into illegibility.

The mouse setup areas allow you to alter the speed at which your pointer moves on the screen (1 being the fastest) and the maximum delay between the first and second button clicks (usually set where shown in Fig 1). Lastly, there is a large, empty box in the centre of the preferences window. It does actually contain a right angle that represents the top left corner of the window. If you click with the left button and hold it on the angle, you will find that you can move the entire window to any desired position on the screen. Obviously hard disk users will need to change a few other things as well but we will cover those in "Setting up your hard disk".

## VERSION 2.xx

Opening the Preferences window under workbench 2.1, you are confronted with thirteen icons, each representing a separate preference editor. Unlike WB1.3 which allows you to change virtually all options from within the main prefs window, Version 2 has much more control over each option, which is why each one is handled separately.

**FONTS** - Lets begin by looking at the "FONT" prefs editor. It has a simple role to play, it allows you to decide which font (lettering style) you wish to use in your menus, window names, icon names and so forth.

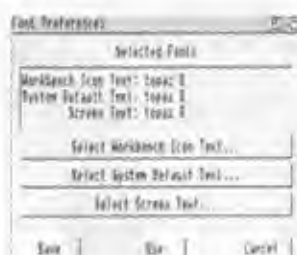


Fig 7

When opened, a window which displays the selected icon text, the selected system text and the selected screen text as well as six buttons. The "Save, Use and Cancel" buttons are the same as on most requester windows, whereas the other three buttons open further windows as shown in figure 8.



Fig 8

The "Select Workbench Icon Text" window has a slight difference from the other two. Each of the others display the list of fonts at the top, the text attributes in the centre and the example window at the bottom. The difference lies in the fact that the text attributes have been replaced by three options, these are "Text Colour, Field (or Background) Colour and Display Mode". Mode switches between text only and text on a field. The other two are pretty self-explanatory.

**THE PALETTE PREFS** - opens a window which shows your current workbench colours and three sliders. If you select a colour, it will appear in a box to the left of the colour list. Now move any of the sliders and notice how it changes the displayed colour.

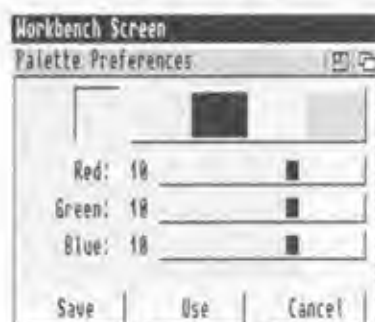


Fig 9

You can have up to 16 colours on your workbench but you must remember that the larger the number of colours, the bigger the chunk of RAM taken up to display it. I have found it to be a good idea to keep a 4 colour WB and alter the palette of any program I load in. This is only my personal preference so make up your own mind.

**WB PATTERN** - This editor is provided so that you can alter both the workbench backdrop and of all the windows. You can select which to edit by clicking on one of the two radio style buttons in the top left corner of the window.

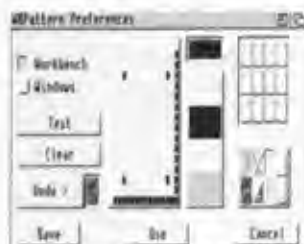


Fig 10

Test will display your selections on screen and clear will take them off. Use the colours and the eight supplied presets shown in the bottom right to find a look that is pleasing to you and then save it.

**INPUT** - Gives you full control over the mouse and keyboard input, much the same as under WB1.3, this



Fig 11

option has been given a new look. You can still change the speed of key repeats and alter the time between double mouse clicks as well as (in later versions) select the type of keyboard you wish to use. Take care when altering the keyboard type as many of the unfamiliar ones have their keys in unusual places.

**ICONTROL** - There seem to be a couple of versions of this within the version 2 updates. The earlier one has three options - Screen drag, Coersion and Miscellaneous. You should know that clicking on the top of a window and holding your button down, will let you drag the window to another position. The same result can be achieved by holding down the left "A" key and dragging the window.

As you can see in figure 12, the key that needs to be held down can be changed to suit you. Coersion has two available options. These are really only used in conjunction with a Multiscan monitor that supports "Productivity" mode. Their function can only be noticed when in productivity mode with multiple screens open. Both of these flags are set to on by default but won't make any difference if they are off, unless of course you have a multiscan monitor.

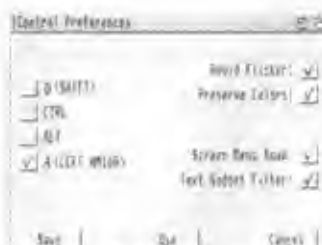


Fig 12

If you have, you should consult your manuals in depth as it needs too much detail to be put down here. Under miscellaneous there are two options - Screen menu snap and text gadget filter, they are used as follows. Screen Menu Snap - If you open a screen that is larger than your display window you will find that your pull down menus stay at the top of the screen (useless if you are at the bottom). When you turn on the Screen Menu Snap option, the menus will snap to your display window becoming available at all times.

Text Gadget Filter Best left on at this point because it allows you to have "hot keys" in your text gadgets. At a later stage we will look at text gadgets in



more detail. On later versions of IControl there are two extra options for verify time out and command keys. "Verify Time Out" sets the amount of time the Amiga will wait for information to be returned from another program before it gives up and goes to another task. "Command Keys" are able to be changed to suit your needs.

**THE POINTER EDITOR** - is much the same as the one under WB 1.3. It allows you to change the pointer by re-drawing it and placing the main point wherever you wish.



Fig 13

**SCREENMODE** - is another straight forward setup. You have a list of available display modes on the left and list of the selected modes properties on the right. Also able to be altered are height, width and number of colours.

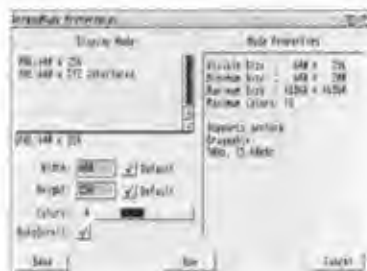


Fig 14

**OVERSCAN** - Sometimes when you use a monitor, there is a small area around the edge of the screen that is unused (a border if you like).



Fig 15

This is known as the "Overscan Area" and the purpose of the overscan prefs editor is to allow you to alter the size of the screen to utilise this wasted space. The two buttons open windows



Fig 16

as in fig 16, these areas are designed to help you define your overscan area to achieve the best screen coverage. Play around and make adjustments until you obtain the best result.

**PRINTER** - As the name suggests, this Preference editor deals with the setup of your printer options.



Fig 17

On the left is a list of the available printer drivers (more can be added to this list by copying them into the DEVS/PRINTERS/drawer).



Fig 18

On the right there are six options that cover most of the printer format needs. The "PRINTER GFX" prefs option brings up this window (Fig 18) in which you change those settings as you would if using WB1.3.

**SERIAL** - The setting available here determine the way that your computer communicates with other computers via a modem. (Fig 19) These options don't really need to be set as it is much simpler to use a communications package like JR-Comm or Term. The same options are available within these programs and will work independantly of the workbench settings.

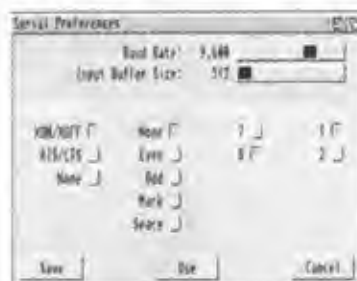


Fig 19

**SOUND** - In this preference editor you can tell your computer to flash the screen when an error occurs as well as make a noise. The noise can be either a BEEP or a SAMPLE SOUND. You can use just about any IFF sample sound. There are also three sliders available for altering thing like Volume, Pitch and Length of the beep. Using the sound prefs you can easily make your error alerts personally distinctive.

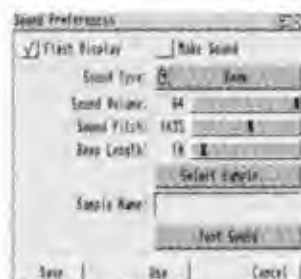


Fig 20



Fig 21

**TIME** - The time is much the same as under previous versions, except it is presented much better. Use your mouse to make the desired selections and save them. Only effective if you have a battery backed up clock.

Well I hope this leads to a slightly better understanding of what your preferences are and how to use them. I know I picked up a few things that I didn't know myself. So I know of at least one person that has benefited from this article, me.

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# Faster than a

## The *Maestro* 14.4 *Executive Series* *Fax/Modem* By: Bill Holder

It's not every day that someone gives you one of the fastest modems around to play with for a week but I just happened to be in the right place at the right time.

Connected to my computer for a whole week was a Maestro 14.4FM Executive Series modem with built in fax machine. The modem comes with cable to connect it to the phone socket, it's power supply, a thin but easy to read manual on operating the modem, GPFax software and GPFax manual. The only thing lacking is a cable from the modem to the computer so if you buy a modem

make sure you get the cable.

What struck me first about this modem is how much bigger than the Avtek modem it is, and also how much noisier it is. Not that these points affect the performance in any way. Also the manual seems a might thin when first seen but it does have everything in it concerning the modem.

So what can it do? According to the manual the modem can handle 14400, 9600, 4800, 2400, 1200 and 300 bps. So it should connect to almost anything that can also handle those speeds.

Setting up is a breeze. The modem uses the industry standard "AT" set of commands. It also lets you store four phone numbers in non-volatile RAM. This means you set them and the modem remembers them even after the power is turned off. Being a high speed modem it is wise to make sure the initialisation string you are using is still setting things up right for the modem, as I found out a 2400 baud modem initialisation string will keep your 14.4K modem totally confused. Setting up the string is relatively easy,

and thanks to Rob Nottage and Paddy Pitman here is a string that lets the modem do what it does best:

**AT&FS95=45&W0&W1&D2&R0**

Type that in and wait for your modem to respond with OK then save it to the modem.

Now you've saved it to the modem all you have to do is type ATZ and the modem will be configured perfectly.

Connecting to other systems with a high speed modem is the same as with a 2400



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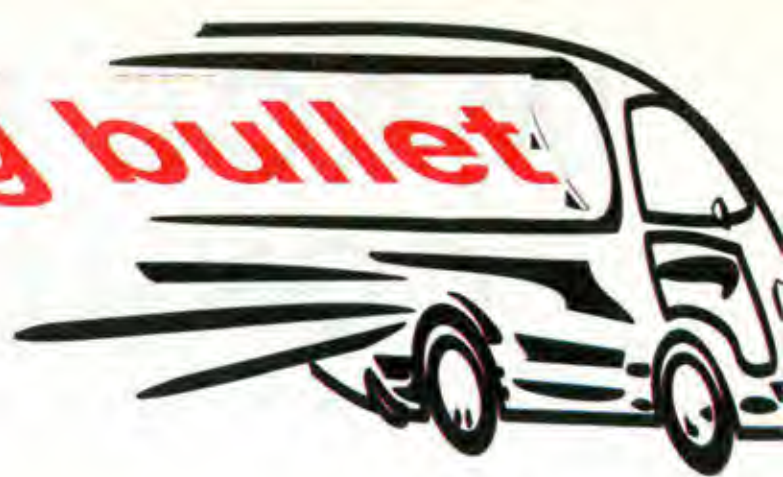
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# speeding bullet



The software can ignore incoming calls, can be iconified until a fax is being received and can even be set up to send a fax at a certain time. It allows for sending of two color IFF pictures as faxes.

Preparing your fax is easy. Use your favorite word processor to type up your fax or use an art package to make your

two color IFF picture. Then select convert from GPFax screen and select the files to convert. GPFax then converts your document or picture into a fax ready for sending. You can view the fax before you send it to make sure it's what you want. The obligatory phone book is in the package and it will even keep a record of the activities it has been up to.

After watching a friend of mine trying to set up fax software on his IBM386 I sure am glad I own an Amiga and that GPFax exists. If you buy a Faxmodem then make sure that GPFax comes as part of the deal.

Price for the Maestro 14.4EM is around \$580 compared to ZXR2400 with fax which is \$390. As you can see for what you get with the 14.4EM it really is a good move to go the extra bit instead of buying a 2400 baud modem which is on the way out.

Maestro offer support on CompuServe direct while in Fidonet there is an area where fellow Maestro owners and Maestro itself can ask questions and swap hints.

Overall for value for money you can't go past the Maestro 14.4EM which, although not as flash looking as it's Avtek counterpart, is cheaper and does exactly the same thing.

downloading files or will allow you to download more in the time you have. Either way it really is a good move to go for the faster modems these days. The price is no longer really relevant considering the price of a 2400 baud modem is only a hundred or so dollars less than a 9600 modem and really, 2400 is becoming too slow by today's standards.

The fax part of the modem is transparent to the data part. Sending and/or receiving faxes is really a matter of software and luckily GPFax comes bundled with the modem for Amiga users. This package definitely the way to do your faxing and is easy to set up. It handles everything you need to do to set up the modem. All you have to do is prepare your fax and type in the phone number. Simple.



modem except for a few minor changes. In your terminal program it will let you turn XON/XOFF on or off. Usually for a low speed modem this is turned on but for a high speed modem you must turn it off. Now you should also be allowed to turn RTS/CTS on or off, for low speed this should be off but for high speed this should be on. If you have these any other way the modem will still connect to the other system but your screen display will be messed up.

That's all there is to it. You now have a fully working high speed modem which will let you take less time

# IMAGE FORMAT CONVERSION

*Written by David Jacobs, Author of 24-Bits and Pieces*

One of the main strengths of the Amiga has long been its graphics capabilities. Within that strength lies another important factor in the Amiga's success and that is the standardisation on the IFF format. The ability to transfer data from one program to another has made the use of the Amiga and its capabilities

This obviously causes many problems when transferring image data between applications.

What has this to do with the Amiga? A lot. As I have already mentioned, the Amiga's strength lies in its graphics capabilities and the IFF ILBM format. The Amiga will never seriously compete in the business world, however, it certainly holds its own if not leads

the other platforms in ease of use, functionality and capabilities in the graphics arena. This allows us to utilise the strengths of the Amiga to compete in the burgeoning desktop video (DTV) market. We already know that we have the tools to produce images and animation for other platforms, the problem lies in the fact that there are so many different formats that we need to cater for. What we need is the ability to convert from and to other platforms.

As you can see, the chaos that exists on other platforms is the Amiga's advantage. Many of the conversion utilities will convert in both directions. What is the benefit of that? Plenty. For a start, it allows one to utilise material that may already exist on the target platform. Another benefit is the ability to access a large source of generic material on CD-ROM. There are a large number of image and clip art disks that exist covering many areas and categories. In general, the images tend to be in either GIF, PCX or TIFF format. These formats are not commonly used on the Amiga.

Some of the conversion utilities exist on a number of platforms. The FBM and PBM+ suite of utilities exist on the Amiga, MS-DOS and UNIX platforms and are the cheapest and most comprehensive of the converters. There are also conversion utilities that exist on other platforms that support the ILBM

***"You do not have to spend a lot of money for format converters".***

so much easier. One sub-format of IFF is the ILBM or InterLeaved BitMap. This is the "standard" graphics format that most people refer to when they say "IFF compatible". Except for a few very early programs, nearly all Amiga graphics packages support the IFF ILBM file specification in one way or another.

This single feature alone has given us the ability to choose the best graphics program for each specific requirement. For example, we can design a logo on a structured drawing program such as Professional Draw or Art Expression. We can then export an IFF image (to be precise, we are creating an ILBM file as the IFF specification also includes text as well as audio files but most people refer to it as an IFF file) and use a paint package such as Deluxe Paint to enhance it, image process it on a program such as Art Department Professional or Image Master and finally display the image using a presentation program like Scala or Amigavision. All this can be done using Amiga software adhering to the IFF specification.

This standardisation that we take for granted is a luxury that some other platforms can only envy. For example, on the MS-DOS platform, there are over half a dozen proprietary image formats.

	ADPro v2.3	IMaster v9.5	ImageFX v1.03
Alias			B
BMP	B	B	B
DKB/QRT	B	R	B
GL			
EPS	W		W
FLI		B	R
GIF	B	B	B
ICO			R
IFF (PC)	B		R
IMG			*
JPEG	B	B	B
MacPaint	R	R	*
PBM			B
PCX	B	R	R
PICT	O	O	*
SUN	O		*
TGA	O	B	B
TIFF	O	B	B
X11	O		*



format (although most do not support modes such as HAM and AGA).

Finally, the most important aspect of converting image files that we have yet to cover is the actual moving of files from one platform to another. For MS-DOS machines, there are a number of solutions. We can use a Bridgeboard and associated utilities (AREAD and AWRITE), a file transfer program like Cross Dos or the public domain equivalent, MSH, a shareware PC emulator like PC-Task or IBem. If you are using Workbench 2.1 or 3.0 you already have the capability to read and write to MS-DOS formatted disks. To move files between the Amiga and Macintosh requires a slightly more complex set-up such as Mac2Dos or AMAX.

Of course there is always the NULL modem option. This involves connecting two machines via the serial port and a NULL modem cable and sending data using a communications program on both platforms. This option is the most complex but will work on just about any platform that has a serial port and a communications package.

There is a lot more that can be said about format conversions but I will leave that for a future issue (if there is any interest). In the meantime, if you

have any questions, hints or comments, please feel free to write.

## The Converters.

The Art Department & Art Department Professional (TAD & ADPro)

A popular and well established program that supports a variety of image formats as well as offering various image processing functions. Image format is automatically detected on loading. Batch processing can be carried out via an included utility (FRED) or through ARexx.

### ImageFX

A newcomer to the image conversion and image processing field. This program also supports a variety of popular formats. Image format is automatically detected on loading. Batch processing can be carried out via an included utility (IMP) or through ARexx.

### Image Master

A very powerful image manipulation program that has support for a number of formats. It has support for a wide number of formats (that are unique to Image Master) and has built in batch processing capability. As from V9.5,

image format is automatically detected on loading. A basic knowledge of ARexx is recommended.

### Rasterlink

A very early image conversion program. It offers support for a number of formats with Macintosh PICT format being a notable inclusion. Image format must be specified before loading. Batch processing is implemented via ARexx.

### HamLab

A Shareware image format converter that offers a number of "filters" for converting files. It automatically detects image format on loading and can scale images as well as correct colour,

---

*"...the chaos that exists on other platforms is the Amiga's advantage".*

---

brightness, contrast and Gamma. HamLab offers a "simple batch mode" whereby files matching a certain pattern will be processed with no further control from the user.

### FBM and PBM+

You do not have to spend a lot of money for format converters. These two collections of image conversion and processing utilities are based on UNIX implementations ported to various platforms. They are public domain and available from various PD/Shareware libraries including Club PD. They are CLI only programs and consist of a number of "executables" that perform specific tasks. The easiest way of using these utilities is to configure something like Directory Opus or CanDo with a number of buttons for each image format that you wish to convert.

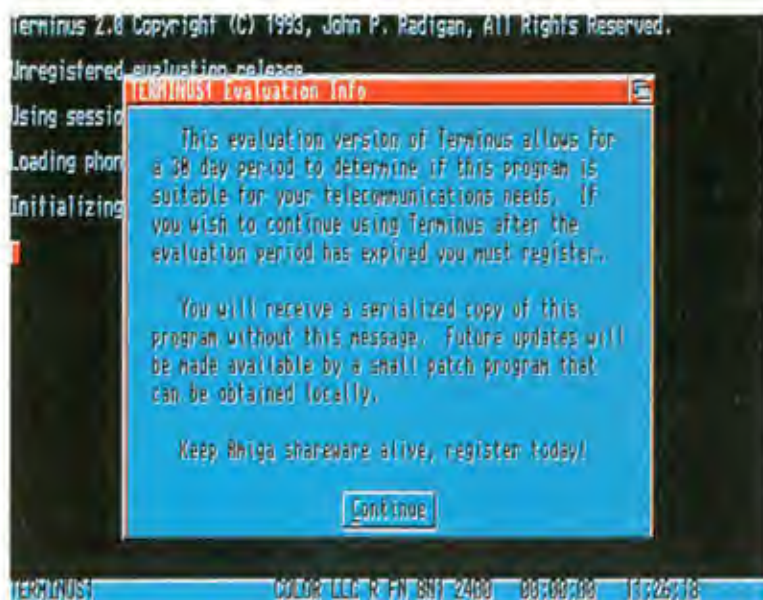
Of the two, PBM+ has the most extensive set of formats including many from scientific and UNIX systems. Both utility collections also offer basic (and some not so basic) image manipulation tools. For the price, they are definitely worth a look.

See the accompanying chart for a summary of the more common image formats supported by the various programs.

RLink v2.3	FBM	PBM	HamLab v2.0.8	
				B = Both Read and Write
	R	B	R R R W	O = Optional
B	B	B	R	R = Read only
B	B	B B	R B	* = Using PBM format
	B	B	B	
B	B	B		W = Write (Save) only
B	B	B	R	
B	B	B	R	
B	B	B	R	
		B		

## YOU CAN TEACH AN OLD DOG NEW TRICKS...

# Terminus



Long considered as the best terminal program for the Amiga, JR-Comm has been upstaged by it's offspring Terminus. With new and improved features this 'new kid' looks set to be the sliced bread of terminal programs.

Written by Jack Radigan, the man who brought us JR-Comm originally, it's not surprising then this program has a touch of JR-Comm about it. Terminus has been many years in the making.

Some of us had a taste of the future last year when an illicit pre-release beta copy was leaked to the BBS world. But even so, that bug riddled copy is nothing compared to the genuine article.

Jack has included all the latest

features into Terminus. It utilizes external protocol libraries while having most of the built in protocols from IR-Comm. The one exception being QuickB, the protocol used for CompuServe (in it's place an external protocol Bplus library is included (although I found it unreliable)).

Terminus also has built in support for the many fast modems that are available on the market. Jack's shareware screen has been carried on to Terminus but it is not quite so obstructive as it was in JR-Comm.

There are many more settings available to users in this version, which makes it easier to configure to your own tastes.

Also many of the options that were a little obscure in JR-Comm have been brought out in the open with the intuition set up of most menus.

I personally have used Terminus in conjunction with a Maestro 14,400 Executive Fax/Modem and the results were outstanding. The use of the XPR libraries increased the transfer speeds considerably.

Overall I found Terminus to be an excellent upgrade from JR-Comm. It works on all versions of workbench and is easily installed to your harddrive.

Thoroughly recommended.

*Bill Holder*





# -CONNECT-

## -What is a modem good for?-

With the ever decreasing price of modems these days it seems like everyone is getting in on the electronic communication revolution. It used to be that an entry level 2400 baud modem would set you back your entire life savings but now you can get your hands on a very respectable 9600 baud modem for around \$450.

So what do you do with it now you've got it? Everybody talks about Bulletin Boards and what they offer but how do you contact one?

The main reason people buy modems is to get their hands on public domain software. Everything from text editors and programming languages to satellite tracking programs and full solutions to the latest games.

Mail is one of the other drawcards. Imagine being able to write a letter to a person on the other side of the world and only paying the cost of a local call to do it, and you can post as many as you like while connected to the bulletin board. Many companies are active in electronic mail and if you know how you can leave messages and queries to the representatives of such companies as Microsoft, Apple and Commodore. Many of the big names in Amiga circles such as GVP also have electronic mail boxes. Some have even gone so far as to set up their own bulletin boards so you can ring them and get help almost straight away.

Beware the cost. Various systems charge as much as they like or as little as they like depending on their service and operators. Some systems charge by the minute or the hour while others charge a flat yearly fee while imposing some restrictions.

Okay so now you have a rough idea of what's available but you still don't know who to call or the differences between systems. Note I do not recommend any one of these systems above any other. They all serve a purpose and what is good for you might not suit me. Experiment with what you want but just be aware that it does cost, phone charges do add up.



### COMPUSERVE:

"You are about to traverse the electronic highways of the world's most diverse information service". This is what it says on the first page of the CompuServe New Member Guide, and they aren't wrong. Everything is available that you could ever want, and even things you didn't want. It has to be the most comprehensive service available to the modem user. On-line shopping, CompuServe classifieds, reference material On-line, games, files, electronic mail, discussion groups called forums the list goes on and on. CompuServe is an American child, born and raised there it is geared to the American market. That's not a bad thing but it is annoying when nearly everything mentioned in the new member guide is referring to something in America and most of the On-line shopping is from American stores. I guess this sure beats mail ordering from the States but I would like more Australian offers and even locally produced documentation.

The drawback is the cost. CompuServe may have the best variety of things to do and see but you will have to pay for them. One good thing is that almost anywhere in Australia can connect to CompuServe for the price of a local call.

Currently it is eighteen dollars an hour for connections up to 2400 baud and thirty three dollars for 9600 baud. There is also a monthly account fee of four dollars and if you want access to the executive features it will cost you at least fourteen dollars a month. Also about ten percent of features offered incur an extra charge but you have to check those when you are on line as they change from service to service, don't worry it does tell you if the service requires extra payment. Just be warned.

Free service on CompuServe is not free when accessed from CompuServe Pacific, because no matter what you still have to pay the local access fee. Free just means you don't get charged for accessing the service.

For the Amiga there is a shareware package especially designed to make using CompuServe easier, it's called Autopilot. It has short cuts and built in menus that will lessen the time it takes you to move around and therefore save you money. You can even register Autopilot through CompuServe.

Now you can't just ring CompuServe and log on. You have to ring their office and they will send you all you need to know to get you started and as an added bonus which I think is terrific they give you twenty minutes On-line free to look around and see if you like it. If you want to use the free time you will need a credit card.

The number to ring for CompuServe is 008 025 240 and ask the person there about joining and they will send you out the introductory kit. All I can say is read everything before you log on otherwise you will get lost and waste your time.

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### DISCOVERY:

Formerly called Viatel this service is run by Telecom. Described as "an electronic publishing and information service giving access to a wide range of databases and interactive services..." Discovery is geared for the serious information hound and its features reflect that. Australian Securities Commission databases, stock exchange information from Sydney, London and New York as it happens, there is also a Bulletin Board called ProNet that you can access from within Discovery.

Many of the services offered are interesting if you are in business but to the average person I don't think access to the stock exchange or MoneyWatch will be of interest.

Discovery charges are added to your phone bill and are slightly cryptic when you want to work them out. There are two configurations of Discovery, called Discovery40 and Discovery80. You can access Discovery40 from within Discovery80 but not the other way round. Both configurations have different phone numbers and different software requirements.

Now the fees. Joining fee of \$60 which includes PC communication software but not Amiga software, and then a monthly fee of \$15. That gets you started. Discovery40 and Discovery80 have off peak rates and peak rates so if you pick your time it will cost you less.

As usual some of the services cost extra. MoneyWatch and Australian Securities Commission services all cost extra and in the case of the Australian Securities Commission can cost quite a lot.

Also one of the drawbacks with Discovery is you have to join before you can access. It is not a system for the casual user and if you want access you have to pay the sixty dollars to join before you even get an account.



### INTERNET:

Internet is the generic name for a group of systems. The one that you and I can play with is called AARNet which stands for Australian Academic and Research Network. This is the network that every Australian university is connected to and through AARNet you can access overseas universities and their databases. Mail is a big drawcard here. If you have a problem with almost anything then this is the place to ask. People all over the world access Internet and public domain software is almost always available on the Internet before it appears anywhere else.

FTP is the catchery of every die hard Internet user. It stands for File Transfer Protocol and is the method where you can get your hands on files from other systems. Most non University Internet sites use what is called FTPMail, a system where you send a message to the remote system telling it what file you want and then the file is sent to you. Not as easy as FTP because you have to know what you want.

Unfortunately the easiest and cheapest way to gain access to Internet is to enrol at University and beg, plead and grovel until you have an account. Or you can do it from home for about \$150 per month. As you can see not a viable option.



### BULLETIN BOARDS:

Bulletin Boards exist everywhere. Anyone who has a modem can set one up and this explains why there are so many. The software to run a BBS is available public domain and as long as you have a modem, phone line and a computer you can be the sysop of your own BBS.

Luckily there is a BBS registry that helps keep track of the large number of Bulletin Boards in Australia, and a new modem owner could do worse than to download the latest registry listing.

Because I live in Western Australia I can only comment on a few interstate boards. In South Australia there is Adam BBS which is Australia's largest with forty eight lines. In Western Australia 1990 Multiline has thirty two lines and comes in second largest, 1990 Multiline is the system I haunt so if you want to contact me you can use Fidonet to mail me there.

Multiline is the most popular bulletin board in Western Australia and is run by two very helpful, friendly sysops. They charge reasonable fees for what is offered and you can select the access level you want. They have fourteen CD Roms On-line and 3.3 gigabytes of hard drive space. Their file base is up to date and their electronic mail selection caters for almost everyone. They also have a restricted adults only section for those of you old enough. On-line games are popular and so is their conference chat areas where it is possible to have up to thirty people all talking to each other at once.

Another big drawcard is that very soon Multiline will have Internet facilities available as well. This is the same Internet universities are connected to but it isn't a 'live' connection. 1990 Multiline will only offer mail facilities and FTPMail for file transfers. They are keeping the cost of this within everyone's reach at five dollars a month.

Like I said before find out where your nearest bulletin board is, have a look at it and while you're there download the BBS registry. Find out what is available.

There is something for everyone out there all you have to do is spend the time looking and in some cases be prepared to pay.

All the best and have fun.

**Bill Holder**

If you have any questions for Bill, send them in to:

**OZAmiga Q & A**  
PO Box 567  
Mirrabooka  
WA 6061



# QUIZ

1/ This best game ever written will be released tomorrow, costing \$95.00. It has taken a team of top class programmers, graphic artists and musicians three years to make. Included in the box are 5 disks, a 20 page manual, a poster and a voucher for 20% off your next purchase of any game you choose. Will you:

- a. Buy it because its so good.
- b. Wait until the price goes down.
- c. Wait until it is included in a multi-game pack.
- d. See if a friend has a copy first.
- e. Forget about the games, get a good paint program instead.

2/ If all new games were priced at \$19.95 would you buy more of them?

☐ Yes. ☐ No.

3/ What is the name of the most expensive program you have ever bought?

4/ How much should an upgrade to a program cost?

- a. Nothing (free).
- b. A small fee to cover disks and postage.
- c. A percentage of the original cost, say 20%.
- d. Depends on the difference between the two. eg v1.0 to v1.5 free, v1.0 to v2.0 small fee, v1.0 to v4.0 costs more etc
- e. No upgrades, always buy a new one.

5/ Which is best?

- a. Everyone should have bought every program they use.
- b. Everyone should buy as many programs as they can afford.
- c. Everyone should at least buy some programs.
- d. As long as some people buy programs that's OK.

6/ Should every new computer come with a complete set of programs included in the price?

eg. a wordprocessor, paint program, directory utility, games, database etc.

☐ Yes. ☐ No.

7/ Should shareware programs be free (no registration, work perfectly)?

☐ Yes. ☐ No.

8/ Was your computer good value when you bought it?

☐ Yes. ☐ No.

9/ The average new computer game costs \$60-\$80. The average Nintendo or Megadrive cartridge costs \$90-\$120. Some prices are much higher or lower than this. Which is the better value?

- a. The computer game.
- b. The cartridge.

10/ Which Workbench do you use?

- a. 1.2
- b. 1.3
- c. 2.0 (2.04, 2.05)
- d. 2.1
- e. 3.0

Write your answers on the back of an envelope and send them to:

**OZAmiga Quiz**  
PO Box 567  
Mirrabooka  
WA 6061

Results next issue!

## CD-ROM for the Amiga

We carry a wide range of resource material on CD-ROM for the Amiga. These include font disks, texture disks, DTP clip art disks, general image disks and more. Prices start from as low as \$35.00

For more information or a free catalogue, write to:

**Creations Audio Visual Services**  
120 McGilvray Avenue  
Noranda WA 6062  
Tel: (09) 276 7850  
Fax: (09) 249 5495

## RANDOM THOUGHTS

*How To Tell A New Computer Owner...*

Hi, I just bought this really good database for only \$300! And I picked up the latest Deluxe Paint for just \$199. I saved a bundle! Would you like copies of them?

*Six Months Later...*

I'm bored of all this rubbish... when will they write something REALLY good?

I don't want to spend \$10 on another box of disks... I'll just go over some old stuff... they're all copies anyway, Fred will have them... I'm not paying \$19.95 for a six game pack! I can buy 3 boxes of blanks for that much...

**We Are The Best!**

Australia has one of the highest ratios of piracy per copy sold. Apparently we all think that the people "over there" will pay for it instead. Unfortunately, they aren't either...

# A CanDo

## Tutorial Project by Trevor Parker

**STRIP RUNNER** is an Applications Launching Strip

In this tutorial we will create a thin (one Character) window to contain a strip of buttons for launching your favourite programs and scripts.

Some useful AmigaDos script examples are included in the article.

The StripRunner window will open on the WB screen immediately adjacent to the RH scroll bar. There are many types of applications launchers available, but this one is so thin, so conveniently placed on Workbench and so easy to use that I have discarded all other fancy menu utilities in its favour.

I will assume that you have at least worked through the tutorials in your manual and are therefore familiar with the means of adding objects such as windows, buttons, etc to a card. There will be only one card in the deck so let's get started:

To create the rest of the buttons:

### For CANDO V2 Users

From the Main Control Panel menu bar, select Tools...SuperDuper. With Button\_1 highlighted in the SuperDuper editor window, set the fields as follows:

Inter-Object Offset X = 0, Y = 12 (ie. each new button is created with the same X origin as the highlighted one but the Y origin is incremented by 12 pixels each time).

Columns = 1 Rows = 28  
Naming Method - Object

Select "Perform" and SuperDuper will replicate Button\_1 twenty seven times, filling your window with bevel buttons ready for you to define text and scripts.

### For Pre-version 2.0 Users

Select "Edit" and the button object in the Main Control Panel and when the Button Object System appears, select "Add", then progressively add new buttons until you have filled the window with them. They should each have identical specifications as Button\_1 except, of course, their Y origins which will increment by 12 pixels in each case.

Now make an alphabetical list of the applications and scripts you want to run from StripRunner and select a single letter to denote each one.

eg:

A for Accounts  
B for BootX  
C for CanDo  
D for Dict2Ram (script)  
E for Editor  
F for Flow ...etc  
L for LockHD (script)...etc  
O for Opus  
R for Fonts2Ram (Script)  
S for Fonts2SYS (Script)  
etc.

Using the DOS tool within the Script Editor to set up the scripting code to run your programs is easy - just choose "DOS" in the script editor and use the resulting file requester to set the path to your program or script, then select OK and there is your script! Just be sure to select the "CD, Stack and Run" button in the DOS file requester for any programs which need large stack sizes, then carefully amend the stack size in the resulting script to the size required. For example, the "release" script you should end up with for CanDo (assuming my path) is:

### CARD 1

<i>Window</i>	ORIGIN	602,22
	SIZE	19,348
	TITLE	Blank - no title
	COLOURS	4
	OBJECTS	DRAGBAR
	OPTIONS	Activate, Bring to front, Try to open on Workbench
<i>Button_1</i>	ORIGIN	4, 11
	SIZE	10, 12
	BORDER	BEVEL - white with black shadow looks OK
	HIGHLIGHT	COMPLEMENT
	TEXT	Leave this blank for now

### Text and Scripts

Start with the last button and set it to  
**TEXT = Q (font = Topaz 8)**  
**Release script = Quit**

Use a different colour for the text of this button than the colour you intend to use for the remaining buttons.

By now you should have a thin window running most of the way down the RH side of your WB screen next to the slider bar with one small bevel button sitting neatly in the top of the window.



```
Let DosVar = "CD Work:CanDo" || Char(10) ; CD to the dir
Let DosVar = DosVar || "Stack 20480" || Char(10) ; Change Stack
Let DosVar = DosVar || "Run >Nil: <Nil: CanDo" ; Run the application
Let DosVar ; feed it all to AmigaDos
```

Note the Stack size.

## Script Files

Here are some of the scripts that I execute from StripRunner:

**Fonts2Ram and Fonts2SYS** - The following scripts save me from waiting for my favourite word processor to load my entire Fonts directory when I run it for simple typing. Including the dpaint font in the Fonts2Ram script will obviate a problem in case you start up DPaint before executing the Fonts2SYS script to reassign "fonts" to SYS. You could include other essential fonts too.

```
copy FONTS:(Topaz;fontldpaint;font) TO RAM:Fonts clone
copy FONTS:Topaz TO RAM:Fonts/Topaz clone
copy FONTS:dpaint TO RAM:Fonts/dpaint clone
assign FONTS: RAM:Fonts
```

The StripRunner "release" script I use for my "R" button is:

### Dos "c:Fonts2Ram"

I don't need the "run > Nil: < Nil:" command as I have set the "S" protection bit for Fonts2Ram making it a self-executing script

The script to reassign fonts to SYS is:

### Echo "Returning Fonts to SYS:" assign fonts: sys:fonts

and my "S" button release script is

### Dos "c:Fonts2Sys"

As you can see, I keep these scripts in my c: directory.

**Diet2Ram** - Actually, this script could be called Diet&Thes2Ram because it will copy ProWrite's dictionary and thesaurus to Ram: to save time and hard drive wear when you use these files. The script (assuming a particular path) is:

```
Dos "Run >Nil: <Nil: Workbench/c/Copy Work:WordPro/
ProWrite/Main-Dictionary Work:WordPro/ProWrite/
Thesaurus To RAM: Quite"
```

Note the tilde used to get rid of the space in the file name "Main Dictionary". The above script is written specifically as a CanDo script - it would be a little different otherwise. It can be adapted for other word processors also.

If you find these scripts useful, you will, of course need to use YOUR paths in your "release" scripts.

After completing StripRunner, try positioning your WB window so that StripRunner is neatly sandwiched between it and the RH WB screen slider bar. Then enter the following line in your User-startup sequence:

```
run > nil: <nil: c:DeckRunner (your path) StripRunner
```

Then get rid of those messy menu programs, confusing hotkeys etc.

**WBfromCli** - I encountered some problems trying to get HomeAccounts2 to run from the cli so I use an excellent little program called WBfromCli written by Warren Webber of Toowoomba, Qld. I leave it in my C: dir.

It activates programs from their info files, ie in effect, it "double clicks" the icon for you.

Therefore, my script for the "A" button in StripRunner is:

```
Dos "Run >Nil: <Nil: Workbench/c/WBfromCli Work:
Finance/T&JParker.HA2" ; run it from a project icon
- :info" suffix not required
```

Finally, if you have numerous programs and scripts which you run regularly, you could make further use of "SuperDuper" and create a border of buttons right around your screen!! I now have one which extends right across the very bottom of my screen - it has a few two-character width buttons for programs whose initials are the same as others.

**Trevor**



"In The Library" is a section devoted to books. Here we will look at new books, compare them with old books and generally find out if they are worth the large sums of money people want to charge for them.

A new range of books has seen it's release in Australia. Published by Bruce Smith Books (BSB), the range for the Amiga covers Assembly, C, Amos, Workbench, System, The A600, The A1200, Games and more....

I have decided to start this section off by going through the BSB range but if you would like to any other specific books looked at, then just write in and let me know and I will see what can be done. To give the technical people time to peruse the more involved books I will start off with the "Amiga Gamers Guide".

The Amiga is still one of the most popular home computers in the world. If you are a

committed games player, you'll be completely spoiled for choice, as no other machine offers such a rich diversity of games software. There are literally thousands of titles available, ranging from multi-disk extravaganzas costing from eighty dollars upward, to the hundreds of Public Domain titles that can be had for a minimal cost (usually less than five dollars a disk).

The Amiga Gamers Guide aims, not only to inform you about some of the best commercial games available, but to

help you get the most out of them. It looks at new games as well as some of the old classics. Covering approximately twenty six

games in great detail and three hundred or so briefly (with hints, tips and cheats), it is sure to help many game players get passed obstacles and give a new lease of life to those games you had given up on.

In many cases the editor (Mr Dan Slingsby) has actually enlisted the assistance of the games original programmers, to devise a definitive help guide.

Next edition we will begin to look at the technical books. The Gamers Guide is the first of it's kind as far as I know and I can see it being of much use to all game players.

**DAVE**



# A4000 User Report

professionals  
trouble using the  
new Amiga ChipSet to  
its full potential.

The following is a story of my adventures of buying an Amiga 4000. Several Months prior to the World Of

Many people will tell you, "I have my trusty old Amiga 500, 2000 or even 3000, so why should I upgrade to an Amiga 4000 or even an Amiga 1200?"

Contrary to what people believe that upgrade will become many steps in the right direction. The Amiga 4000 is even great for Amiga novices and certainly shows off the real Amiga's power to friends, business colleges and family.

**The Amiga 400 provides the ultimate platform for using a paint program with 262000 colours**

For the Novice the Amiga 4000 offers the user access to either the latest game in 256 colours or so; allows the user to easily and fast use their Word Processors with no delays or problems what so ever.

For the Intermediate User the Amiga 4000 provides the ultimate platform for them to use a paint program in 262,000 colours; for them to play around in programming and also for them to run their games and applications.

For The Advanced User the Amiga 4000 offers Ultimate Power on the best, most powerful and fastest machine around. The user can render a picture in Imagine 2.0 or Aladdin4D while downloading a program on the 030 enhanced version of Term. At the same time you can be working on a Desktop Publishing Package using a 216 Point Compugraphic Bold Times Font without the machine noticeably slowing down. The advanced user can run a whole Multi-Media Room on one of these computers, all without running out of RAM or Processing power. It will also deliver the performance needed to use the Amiga as a business machine. This machine will even give

**The A4000 will even give professional users a challenge, making the new chip set perform to it's full potential.**

Commodore Australia 1993, I started hunting around for the cheapest prices in Australia on A4000's. I flicked through an Australian Amiga Magazine (because I knew most Amiga retailers advertised in there) for prices and phone numbers.

I called up many companies finding their best prices. After calling 3 dealers I found out when you mentioned you were interested in an Amiga 4000 their eyes lit up with dollar signs. After calling round all these Australian companies I wrote down the prices for a later date when I would need to recall the prices again. If possible when buying an Amiga 4000 get a package deal, it works out much cheaper that way eg. An Amiga 4000 and 1942 Monitor.

**The big day came, I needed to rob the bank, or so it seemed.**

Then as the end of June approached I started re-calling the shops for new prices, to my surprise one store even added \$300 onto their previous price from several months ago. All of the stores knew that the World Of Commodore show would be on in a few days and their prices would have to be winners to impress me.

What suprised me was how low retailers were setting prices in order to compete against each other. For example one store is selling \$100

Every time you see a product review in a magazine, it tends to be written by someone that eats technical dictionaries for breakfast. Well, we have now come up with the idea of User Reports. Written by an average user, this report on the A4000 is his views on the machine and it's uses. You don't have to agree with him but he may provide some insights for you if you are looking to upgrade.

If you are the proud owner of a new piece of hardware and have got the hang of using it, write in and tell us what you thought of it. If we get enough User Reports sent in, we may even look at making it a regular feature.

over cost only! A shop like this means cheap machine, no support; in other words stay away from this type of shop if you are anything less than a professional (this may not be true in all cases).

Then the big day came when I would finally rob the bank and buy this machine (not really but it seemed like I needed too, to be able to afford it). The World Of Commodore 1993 was finally in Australia, this show was/is known to many as the home of Amiga Bargains. To my surprise Commodore employees tried to convince me to buy an Amiga 4000/EC030 or even an Amiga 1200! instead of an Amiga 4000/040.

**The advanced user can run a whole Multimedia room on one of these computers with processing power to spare.**

After some heavy negotiation at the show I finally bought one at the cheapest price I have, yet seen, anywhere in Australia (no mentioning the Amiga dealers name to protect other Australian dealers). I even got myself a 1942 BiSyne Monitor at a great price.

When I got home I eagerly pushed aside my trusty Amiga 500, with, who knows how many expansions, add ons and whatever else you can think of. I opened the Amiga 4000's box and inside I found the following:

- \* Keyboard
- \* Opto-Mechanical Mouse
- \* 1 ARExx GuideBook
- \* 1 Hard Drive Users Manual
- \* 1 AmigaDOS Guide Book
- \* 1 Workbench 3.0 Manual
- \* 1 A4000 Introduction Manual

To my shock I found the Manuals were so well written even a Novice could understand them.

After taking 5 minutes, to make the connections, I turned it on to watch it hum at it's turbo speed. I found I did not need the 6 boot disks supplied as it was



already installed. My only criticism was/is the loudness of the Amiga 4000's fan. The computer booted up and in 10 seconds my new Workbench 3.0 Interface was on the screen ready to thrill.

I pulled out my original copies of PageStream 2.2 and zapped them onto my Hard Disk in no time at all (1 Megabyte a second transfer speeds. Then came Term 3.3 with its library's and over 20 Megabytes of Modules averaging 800k in size, plus a copy of MultiPlayer.

Kicking up PageStream in 16 colours took me no time. (unfortunately PageStream 3 isn't out yet) with its AGA Capabilities.) This used to take me 1 minute to load up on my Amiga 500 with a Quantum SCSI Hard Drive [which has transfer speeds comparable to GVP's FastROM (tm)]. I then loaded 10 Modules into MultiPlayer all over 800k in size and played one in the background. Then I loaded Term and put it into maximum colours and buffering and called up a BBS. I let my script automatically download the files in the background while I loaded up a copy of TransWrite 2.0 to write an Article for the DeskTop Publisher. After I finished writing, I loaded the text in as a 216 point, Times Compugraphic Font, to test it. The document loaded and displayed it in a very short time. While all this was happening my Chip RAM never went below 1 MegaByte. With the Amiga 4000's fabulous Memory Management Unit I still had 2 Megabytes of Fast RAM and my machine didn't slow down at all.

My Other Criticism on this machine is, Workbench 3.0 still doesn't have a hotkey for the Delete Command. With the 040's massive power it can find bugs in quite a bit of software and especially a lot of old games. Otherwise it has a lot of great points. Since the time I got the setup described above, I have continued to successfully use it without ever running out of memory or slowing down.

I hope this article will help some of you decide whether or not this machine is really for you. If you are a games player only, then the Amiga 1200 is a great machine for you. I personally wouldn't recommend the Amiga 4000 EC 030 version as it has no Memory Management unit or Floating Point Unit which I find is essential.

OK Thankyou...

Guy Nathan.

If You Want To Contact Me Leave Me a Message At The Following E-Mail Address: 3-714/908.8

# How to make your own Printer Ribbon Re-inker

## A money saving idea by Trevor Parker

One of the easiest and most useful things you can do for yourself to save money and to always have good black printer output in your documents is to make your own ribbon re-inking machine.

Go to your local rubbish tip, recycling depot or household appliance repairer and (for a song!) obtain a working rotisserie motor and shaft from any clapped-out electric stove. My repairer sold me one for \$5.

Get any piece of flat board that is large enough to set your ribbon cassette on with about 8 inch's length to spare. Nail and glue two more similar pieces of board to this forming "legs" to raise the original board off your bench by enough to clear the depth of the motor when it is mounted under the original board.

Drill a small (say, 1/4 inch) hole through the original board exactly where the rotation port underneath your ribbon cassette will sit when the cassette is mounted. Now, mount the motor under the board so that its shaft can be inserted straight down through the hole which you drilled.

Mount on the board (try Araldite) an ink container - preferably a small fairly thick plastic cylindrical one such as a photographic film container, for example. Centre it about 5-6 inches from the tip of the cassette. Make a SMALL (try a HOT needle) hole in it. The hole should, of course, be on the side AWAY from the cassette and should be the same height from the face of the board as the CENTRE of the ribbon will be when the cassette is mounted ALMOST on the board's surface. You can sit the cassette on pieces of lino or cardboard if you need to adjust its clearance from the board.

Fit the shaft down into the motor, mark it and cut it the right length to protrude just enough to fully engage the cassette's drive port. you might have to grind or file the end of the shaft carefully to make it fit your cassette port properly.

Now, fit the cassette onto the end of the shaft, pull out some ribbon, place the ribbon around the ink well, take up the slack, turn on the power (I assume you've safely connected a lead and plug to the motor) and test the running of the ribbon for alignment and stability. You might need to use a few lightly driven nails to stabilise the cassette (I haven't needed to) and/or some electrical tape to secure the ribbon's path around the ink well, but it's all easy going!!

Once you have done all this, just put some PROPER dot matrix ink in the well and you are in business! One major



supplier who will send you the ink for a small extra freight charge is:

Aussoft  
512 Bloomfield St  
Cleveland  
Qld 4163  
Phone: (075)286 5590

However, you could check with "Information" first as I haven't bought any for some time (a little ink goes a long way). If you know any other sources please let know.

Finally, you can leave the excess ink in the well (if it has a suitable top) by simply taping the hole over, but don't forget to clean the running surface when you remove the tape for more re-inking.

Happy and successful re-inking. Don't overdo it though, about twice through is plenty!

# Brush Mapping

in

## IMAGINE <sup>part</sup><sub>2</sub>

by Mark Johnson



In this part we will look at altitude or bump mapping, filter and reflective mapping. Altitude and filter mapping are the most time and ram consuming of the three. I will presume you have mastered colour mapping so I can concentrate on the finer points. These maps users gray scale images, if you have a colour image Imagine will convert it to a gray scale. Again I will refer to the "Right Amiga" key as "Amiga".

### BRUSH TO MAP

First we have to make the brush to map onto the objects.

1. Load up DPaint or similar in Low Res 16 colours. Making the palette a gray scale. Select Rangers from the Colour menu, and make the range black to white using all the colours. Make the background colour white.

2. Press F7 for the cycle mode, and select the largest round brush. Select the Airbrush tool with the Right mouse button and make the size of the brush as big as it will go.

3. Press F10 to remove the tools and menu bar, and spray the screen until 80% of the white background is covered.

4. Press "b" for the brush selector. Grab the entire screen and press h to half the brush. Press K to clear the screen. Now stamp the brush down in the middle of the screen. Keeping the brush in the same position press "O" two to three times. Press F8 for the Smooth brush and stamp in down on top.

5. Press F10, press b for the Brush selector and pick up the drawing. We have just made a Granite brush. Now save it as Granite.Brsh.

6. Now we have to make the Filter brush. Clear the screen, change the colour format to two colours, from the Screen format under the Picture menu. Make the two colours black and white for this example. We could use a gray scale, but for a more dramatic example we'll use 2 colours.

7. Using black as the background colour select the Filled Circle tool. Make a circle about 17 pixels in diameter. Press b for the Brush Selector tool. Pick up the circle leaving two pixels blank space around the circle.

eg. If the circle is 17 pixels in diameter the brush should be 21 x 21 pixels.

8. Press F for the fill requester. Click From Brush, select OK.

9. Select the smallest brush from the built-in brushes. Press C for the Filled Circle. Place the cross hairs on the center of the circle. Draw a circle to about half the screen size. You should now have lots of circles with the outline of a circle.

10. Press b for the Brush Selector and pick it up precisely. Now save it as Filter.Brsh.

### FILTER MAPPING

Think of filter mapping as putting holes in an object. The whiter parts of the map you can see through, the blacker parts of the map you can't see through.

1. Open up Imagine to the Detail editor. Select the Add Primitive command "F5" from the Functions menu. Click on Disk, make the radius 100, leave the sections as they are and select OK.

2. Press F1 and select Mold "Amiga E" from the Object menu. Click on Extrude, make the length 20, leaving the default settings for everything else. Select perform.

3. Press F7 for the Attributes requester and type in the following.

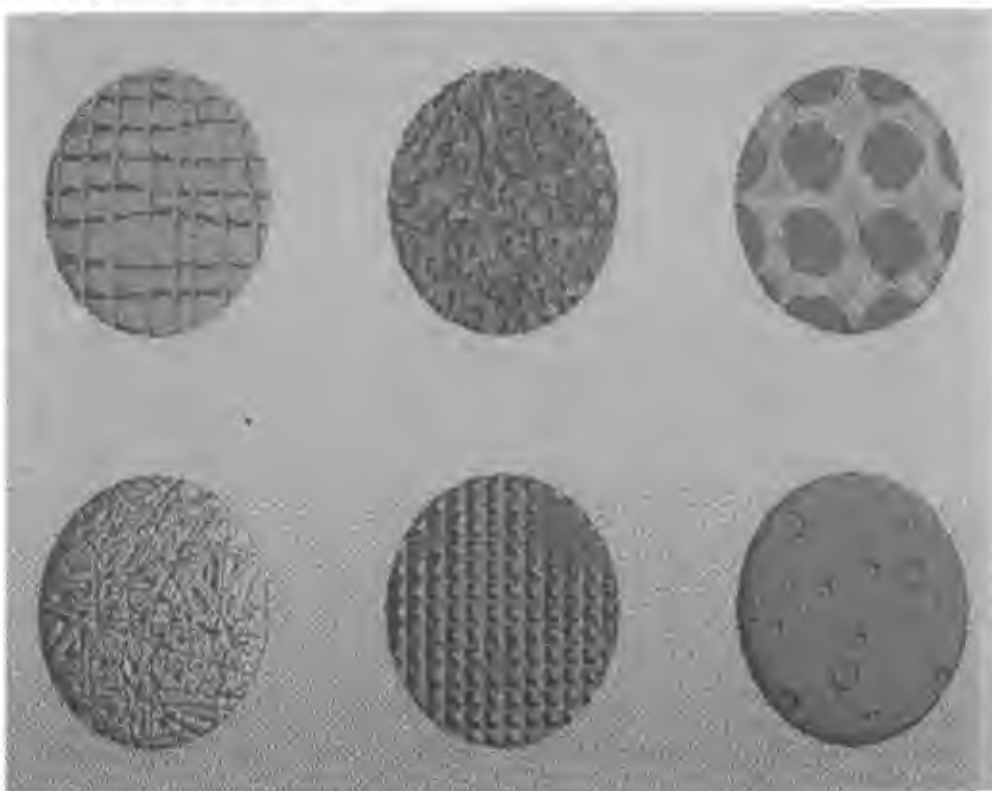
	Red	Green	Blue
Colour		180	11138
Reflect	17	17	17
Specular	136	119	102

Hardness = 17

Note: Make sure the Shineyness = 0 or the map won't work. Save as Disk.Obj

4. Click on Brush1, and load in the brush Filter.Brsh. Click on Filter, leaving Flat X and Flat Z. Select OK.

5. Save the object as Filter.Obj, and Quickrender it to check it out.





Use's - Lace, Stain glass windows, Lighting effects, Moving rotor eg Helicopter blades, Bi plane prop etc.

## ALTITUDE MAPPING

A better name for altitude mapping is bump mapping. The white areas of your image will be the highest point in the bump map and the darkest areas will be the lowest points. With this map the Y axis plays an important part. Leaving the Y axis as default is a good idea, but you can change the size as it effects the depth of the bump. Making it about 25% the size of your object is quite good.

eg. if you have a sphere that is 100 in diameter, the brush Y axis would be 25.

1. Load in the Disk.Obj.

2. Select the Attributes Requester "F7" and click Brush1. Load in the Granite.Brh and click Altitude. Select OK.

At this point it is a good idea to experiment with the Y axis's size. Make two copies of the object and change the Y axis on the brush. Make the Y axis's 2 in the first, 5 in the second and 10 in the third. Render the objects and take note of the changes. Save them as Bump1, Bump2, and Bump3.

Use's - Moon craters, Fruit - orange, carpet, heaps more!

## REFLECTIVE MAPPING

With this effect the whiter area's reflect light, and the darker area's don't. The inbetween gray colours reflect a less light according to how dark or light they are. You will also have to get a colour picture to wrap in this tutorial.

1. Load in the Disk.Obj.

*The white areas of your image will be the highest point in the bump map and the darkest areas will be the lowest points.*

2. Select the Attributes Requester "F7" and click Brush1. Load in the Granite.Brh and click Reflective. Select OK. Save as Reflect.Obj.

If you have Imagine 2 go to number 5

3. Load in a sphere from the primary menu "F5". Scale it so the perspective view is inside the sphere.

Select the Attributes Requester "F7" and click Brush1. Load in a colour picture. Try not to have too much black in the picture. Select OK. Save as Background.Obj.

4. Set up the sage editor with all the objects and render them. Make sure that all the objects including the camera and lights are inside the Background.Obj.

Imagine 2 Only

5. In the action editor click on global. In the world map requester type in your colour picture file name and where it is kept.

eg. D:\Artwork\Pictures\Sky.pic

6. Set up the stage editor with your objects and render it.

Use's - You can use this as a environment map. Eg You could reflect the sun coming through a four pane window. So what you would get is a rectangle hot spot on your object instead of a round one, that you would normally get from the lights.

Bye for now.

Mark Johnson.

# GigaMem

Every computer has a certain number of memory chips built in. These provide memory for the operating system and the use of application programs. As we all know, it doesn't matter how much you've got, it's never quite enough.

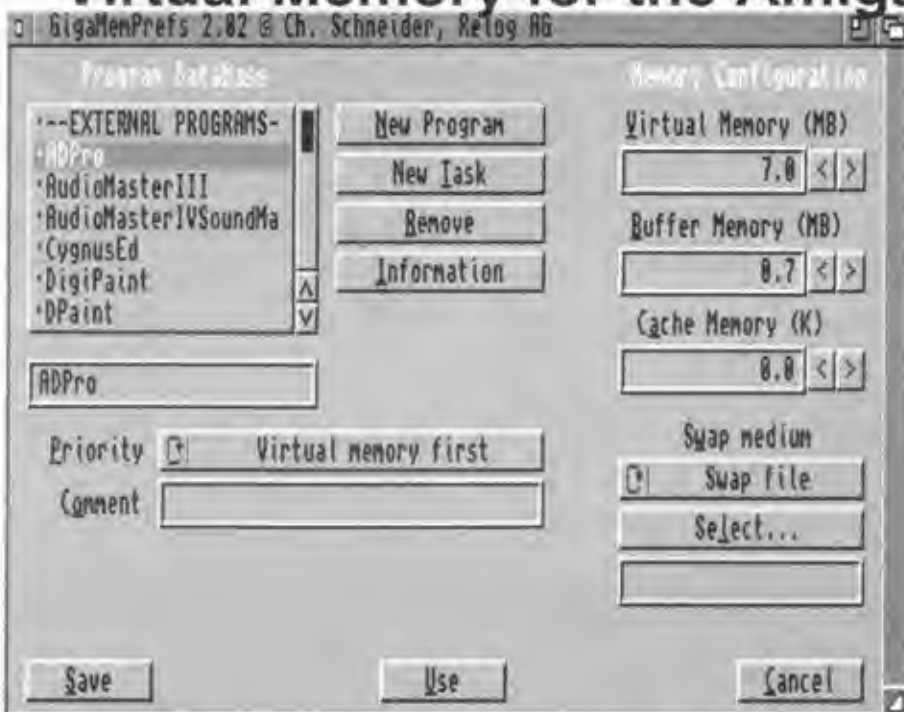
Fortunately, with the help of special programs like GigaMem, it is possible to expand this memory, which can then be "Swapped" out to some suitable media in the form of Virtual Memory.

Thanks to GigaMem, the Amiga user now has the ability to expand his system memory in the form of Virtual Memory on harddisks, removable cartridges or other media.

Because of this, it is now possible to process large amounts of data (eg. graphics, music), whilst multitasking programs that were normally too memory hungry to use in conjunction with other software.

The writers of GigaMem encourage the use of workbench 2 or higher, but state that it is usable with earlier versions, provided the hardware requirements have been met.

## Virtual Memory for the Amiga



To use GigaMem you need to have your Amiga equipped with an MC68020 or MC68030 that is fitted with a working MMU (Memory Management Unit). GigaMem cannot operate without the MMU, for obvious reasons. Furthermore, it is fairly plain that you need a swapping medium, preferably a harddisk.

With a retail price of approximately \$200.00, GigaMem can work out cheaper than actual memory chips.

I recommend that you ensure your system is fitted with the MMU before you purchase GigaMem.

# AMOS

# Competition File

## Using multiple banks with no problems

Several people have written wanting to know how to load a file containing several banks without erasing the other banks already present.

AMOS can save .abk files containing either a single bank or a series of banks. When you load a file containing a series of banks, any banks in use are erased before the new ones are loaded. This does not occur with single bank files.

There is nothing you can do about preventing the other banks from being erased, but you can work around it.

For example, say you are writing a game. You want to use one or two banks to store common things like the player images, sound effects and bonus tokens to pick up. These things are used for every level. Let's say that you also want to create level files containing the enemy images, icons and background music for each level, and you want to store all this in a single file.

One thing you can do is use a packed screen for your common images and Get Bob or Screen Copy them from that screen as necessary. As you want the images to remain in memory all the time anyway, this is a good method. Icons can be grabbed from the same screen.

Sound effects unfortunately cannot be treated the same way. You could keep the sound effect bank separate on disk, then reload it each time after loading each level. You could do this with the common image file too.

We received some terrific entries into the Amos Competition, each showing not only style but originality as well. Below, Neil has a look at each one, giving some general information, a rating, a brief description and finally some suggestions. Unfortunately there can only be one winner, so read on to find out who the lucky entrant is.

### Entry #1

Title: **SuperK**

Author: **Frank X Buttigieg**

Type: **Casino Game.**



### Information:

HD Installable	Yes
Start From WB	Yes
Icons Provided	Yes
Run from Floppy	Yes
Autoboot	Yes into game
Instructions	Yes (from WB)

### Ratings:

Sounds	Bells and dings.
Graphics	Well drawn.
Usage	Good. All mouse operated.

### Notes:

SuperK simulates a Keno machine, as found in many Casinos and RSL clubs. It is easy to use. The mouse is used to select all functions. The graphics are well drawn and animated making this a pleasant game to play. Sounds are limited to simple bells and dings, such as a real Keno machine might make. The entire game is loaded at start up. It ran from the supplied floppy disk very well.

### Suggestions:

None. Keep up the good work.

### Entry #2

Title: **Thyris**

Author: **Daniel Hare**

Type: **Arcade Game.**



### Information:

HD Installable	No
Start From WB	No
Icons Provided	No
Run from Floppy	Not properly
Autoboot	Yes into game
Instructions	No

1. LCD dreams
2. The Wall - close second
3. Florist Base
4. Super K
5. Thyris

## Competition Winners!

The decisions between 1st and 2nd, 3rd and 4th positions were about the hardest I've ever had to make.

All programs were good. A great deal of effort has gone into all of them. The joint effort of the LCD Dreams team made it just that bit more polished. Our congratulations to all entrants, on a job well done. An example of Tony Budge's winning style will be displayed on the coverdisk with Edition #9.

*Tony Budge* ED.



### Ratings:

Sounds	OK. Music in loader, some digitised sound.
Graphics Usage	OK. Sparse. Good. Tricky to master.

### Notes:

In Thyris, the aim is to collect an "egg" at the end of a maze and return to the beginning. Gravity, narrow spaces and shooting gun turrets make this difficult. There were no instructions provided, excepting comments in the supplied source code. The program has a problem loading fonts which prevents it becoming HD installable, or running from a floppy without being autobooted. Graphics were sparse. A lot of time spent making it playable without being too easy or hard. Good.

### Suggestions:

Some music while playing would be nice. Pretty up the screens. Either bind support files into the program or try a better method of loading them. Need the font location procedure from a previous CoverDisk.

### Entry #3

Title: **The Wall**  
Author: **Milos Toth**

Type: **Arcade Game.**



### Information:

HD Installable	Yes
Start From WB	Yes (WB 2.x)
Icons Provided	No
Run from Floppy	Yes
Autoboot	Yes into game
Instructions	Yes in game

### Ratings:

Sounds	Very Good.
Graphics	Very Good.
Usage	Very Good.

### Notes:

The Wall is a Breakout style bat and ball game with 40 levels of play. Good use is made of sound effects, various control options are provided (mouse, joystick, keys etc) and instructions are available from the title screen. This is a well rounded program with a title

screen, hall of fame, in game docs and demonstration mode. Game play is smooth and responsive. This program uses an intelligent loader for support files and levels. Shows good programming.

### Suggestions:

Any more?

### Entry #4

Title: **Florist Base**  
Author: **Brian Robinson**

Type: **Database.**



### Information:

HD Installable	Yes
Start From WB	Yes (mostly)
Icons Provided	Yes
Run from Floppy	Yes
Autoboot	Yes to WB
Instructions	Yes from WB, plus on-line

### Ratings:

Sounds	None.
Graphics	Nice interface.
Usage	Good. All mouse operated.

### Notes:

Florist Base is a database program for Florists to keep track of paid and unpaid accounts and jobs in progress. The program is user friendly, has a nice mouse operated interface and requesters, and is quick and responsive. There is a limit to the number of records if a file, monthly operation is suggested, and all records are loaded into memory for processing. When the program was started from Workbench, the incorrect font was used for the requesters, but the program functioned correctly. On-line help was easy to use.

### Suggestions:

Make it configurable and work with the records from disk.

### Entry #5

Title: **LCD Dreams**  
Authors: **Tony Budge, Rod Utting**

Type: **Various Games.**



### Information:

HD Installable	No
Start From WB	Yes (FD only)
Icons Provided	No
Run from Floppy	Yes
Autoboot	Yes into game
Instructions	Yes in game

### Ratings:

Sounds	Good. Music plus digitised sounds
Graphics Usage	Very Good. Very Good.

### Notes:

LCD dreams is a set of games that simulate the old hand held style of LCD game. There are four games: Octopus, Parachute, Fire Attack and Oil Panic. All are very well done and are accurate representations of the originals. Instructions are presented in the title screen of each game, along with a high score table. The disk is hard coded to work only from DF0: so the game cannot be installed on a hard disk. All programs work well, the intro is very well done.

### Suggestions:

Make more!

The winning entry was sent in by :

**Tony Budge**  
**Greenwood WA**

His copy of AMOS PRO is already winging it's way to his door.

# The Guild Hall



Well boys and girls it seems the dragon has awoken at last and the selection of Fantasy Role Playing games has been increased. This month into my hot little hands landed the much awaited Abandoned Places 2 and an interestingly named game called Legends Of Valor. Hopefully this signals an end to the slackness of local suppliers in letting Aussie Adventurers drool over reports from overseas about new games and not letting us get them until months down the track.

The Guild Hall competition announced last edition has received a few entries but there is still time to enter. Get off your lazy behinds and start entering. I should have pointed out no pornography, no matter how fantasy orientated, will be considered eligible. I am impressed with the short story I received and it will sure take some beating.

For those adventurers who own modems then you should be aware that many Bulletin Boards have On-line dungeons to explore, either by yourself or with a party. If it is with a party you usually all log on at the same time and it is played 'real time', of course these ones are only for boards with multiple lines. If your BBS doesn't have any of these then pester your sysop to set them up.

Now most of you won't be aware of this but Origin, the makers of the Ultima games, have sworn never to write another Amiga game. That means no more Ultima for Amiga users, while the IBM owners pleasure themselves with Ultima 7 part 2 and Ultima Underworld not to mention Wing Commander 2. What can we do about this?

Can we possibly change their minds and save ourselves from boredom? The answer is yes. Write a letter to Origin

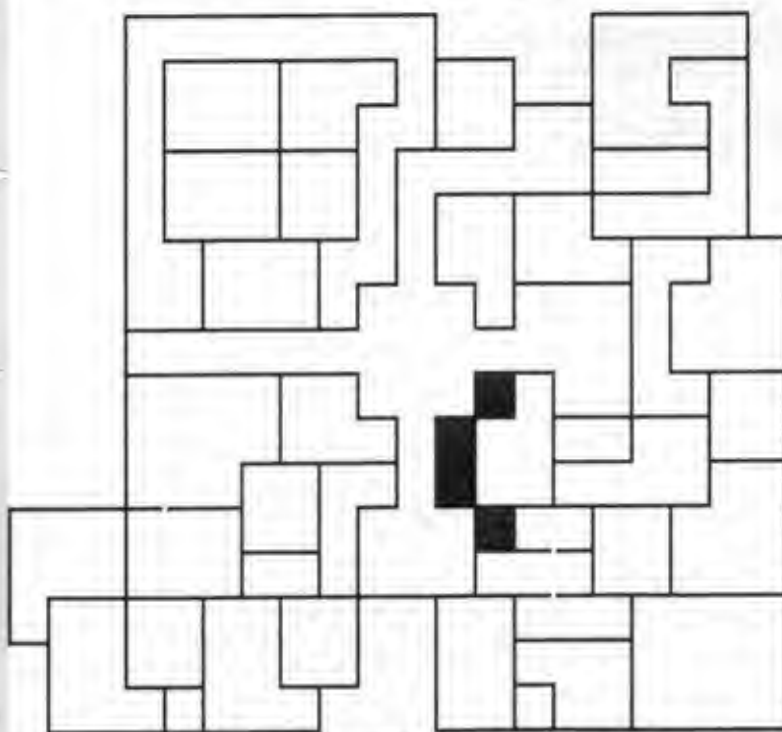
and send it to Ozamiga. I will send them direct to Origin either by Australia Post or on Compuserve or both. The more people who send their letters to me to be forwarded on the more our chances increase of Origin listening to us. I desperately hope they change their mind so come on, write in today!

Anyone out there stuck in an adventure game drop me a line and I'll help solve your problem as quick as I can. If you send a disk with a copy of your saved

game on it then it makes my life easier. Also if you include a stamped, self addressed envelope then I will return your disk to you crammed full of goodies. On the other hand if you have mastered a game send in your solution or your hints and each edition I'll print one and the lucky adventurer will receive a prize.

That's all for now until next edition. Remember to send in your competition entry and your letter to Origin.

## MAPS



This is the map of  
Sir Daargards Tomb  
from Champions of Krynn



By Bill Holder



I was getting pretty sick of always hearing how good Wolfenstein 3D on the IBM is but now I can tell those smart Alec PC owners where to get off. Legends Of Valour is one of the new breed of games that uses the real time 3D point of view perspective and boy does it do it well. Even on a standard A500 this game clips along at a reasonable rate and on an accelerated machine or an A1200 this game flies!

Everything you've come to expect from games such as Eye of the

Beholder and the Ultima series is here but this time it from your perspective. When you attack somebody it is your sword you see cutting them in half. When you cast a magic spell it is flying from your hands. And the way the sword glides across your view when it's used is pretty good.

The idea of the game is simple. You have arrived in a town called Mitteldorf to track down your cousin Sven who seems to have disappeared. The town is full of things to do and people to talk to. Talking to them is the only way you'll work out how to finish the game.

Legends Of Valour does not use a joystick and is really a mouse only game, although die hards can use the keyboard if they want to. The game comes with a Quick reference Card, a

very detailed player's guide, code wheel - yes a damn codewheel - and a map of the town. It comes on four disks and you will need a blank disk to save everything. For hard drive owners you can breathe a sigh of relief, it is hard drive installable. In fact it even multitasks!

The first thing you must do when you start to play is create your character, including designing a face for yourself and a name. This is handled by a separate program, a set up I found strange at first but after you create your character you won't need it again anyway. Bit of a hint though, if your character doesn't start with much money create another one till you do because you will need all the money you can get.

Read the manual. This is not a game you can boot up and get into straight away, there are buttons and icons

everywhere and in the middle of a battle is not the right place to work out what each one does. The viewport can be sized into three different categories. The smallest obviously runs the quickest. The middle size is the default and it runs fine on my A500. The largest size is my preference but alas, it is too slow on a standard 68000 Amiga.

Graphics are well drawn. People, buildings and items are all easy to distinguish. Sound is great, booming knocks on the gate, doors opening, fights, all have sound effects that suit and are quite good.

Legends Of Valour should be available now and the price is around \$69.95. It is subtitled Volume One - The Dawning, so here's too hoping that Volume Two won't be far behind.

All the best,  
Bill

## It even Multitasks!



# Coming Games List

Micro Machines	Codemasters	Arcade
Darkmere	Core Design	Arcade Adv.
Wonder Dog	Core Design	Platform
Curse of Enchantia 2	Core Design	Adventure
Bubba N' Stix	Core Design	Puzz/Plat.
Heimdall 2	Core Design	Iso. Adv.
Cyberace	Cyberdreams	Racing
I have no mouth	Cyberdreams	Adventure
Tornado	Digital Integration	Flight Sim
Flight Sim Toolkit	Domark	Flight Simm
International Rugby	Domark	Sports
Space Hulk	EA	RPG
EA Ice Hockey	EA	Sports
War in the Gulf	Empire	Wargame
Campaign 2	Empire	Wargame
Cyberspace	Empire	3D RPG
Maelstrom	Empire	Strategy
Twilight 2000	Empire	3D Sim
Whales Voyage	Flair	RPG
1869	Flair	Strategy
Realms of Darkness	Grandslam	RPG
Tensai	Grandslam	Arcade Adv.
7th Sword of Mendor	Grandslam	RPG
Beavers	Grandslam	Platform
Zool 2	Gremlin	Platform
Lilil Devil	Gremlin	Arcade Adv.
Putty 2	System 3	Arcade ??
Overdrive		Racing
Body Blows 2		Arcade Adv.
Alien Breed 2		Arcade
Project X 2		Adventure
Super Blues Bros	Titus	
Lionheart 2		RPG
U96		Adventure
Air Search Rescue	Virgin	RPG
Beneath the Steel Sky	Virgin	Adventure
Lands O' Lore	Virgin	RPG
Cannon Fodder	Virgin	Wargame
Apocalypse	Virgin	Wargame
Goal	Virgin	Sport
Global Warriors	Virgin	
Red Spot	Virgin	
Miracle Bat	Miracle Games	
Black Sect	Lankhor	RPG
Ben E Factor	Digital Illusions	Adventure
Pinball Illusions	Digital Illusions	Arcade
Air Force Commander	Impressions	War/Strategy
Rules of Engagement 2	Impressions	SF Strategy
The Blue and the Grey	Impressions	Wargame
Castles 2	Interplay	Strategy
Buzz Aldrin's Race	Interplay	RPG
The Lost Vikings	Interplay	Plat./Puzzle
Frontier	Konami	
Batman Returns	Konami	Arcade
Arabian Nights	Krisalis	Platform
Soccer Kid	Krisalis	Platform
The Lost Kingdoms	Krisalis	RPG
Legends	Krisalis	RPG
F117A	Microprose	Flight Sim
Gunship 2000	Microprose	Flight Sim
The Legacy	Microprose	
Fields of Glory	Microprose	Wargame
Harrier Jump Jet	Microprose	Flight Sim
Sub War 2050	Microprose	Sub Sim
Dinoworlds	Mindscape	
Metamorphosis	Mindscape	
Battle Toads	Mindscape	
Wing Comm. Missions	Mindscape	SF Sim
Captive 2	Mindscape	
Sim Life	Mindscape	Sim
Sim Farm	Mindscape	Sim
Sim City 2000	Mindscape	Sim

# Hints & Cheats

## Traps & Treasure

Level 2 - 52011413 Skull  
Level 3 - 31245300 Temple  
Level 4 - 15204524 Castle

## Nikki Boom 2

B - DRACO  
C - ATIKH  
D - FIRAM  
E - LURNA  
F - PALET  
G - MIURA  
H - SLORY

## Epic

Try pressing <enter> a few times for a refuel, shield repair and a weapon boost up to 99 shots.

## Time Machine

Enter your name as DIZZY on the high score table for infinite lives. You should now be able to access any of the time zones and <A> or <S> will select different screens in a particular zone.

## Turbo Outrun

After the countdown, type in WARPEEPEL and then you can press the following keys for the relevant effects.

<D> - More turbos  
<F> - See ending  
<G> - Lose a credit

## Pinball Fantasies

Type any of the following cheats before you select the number of players:

EXTRA BALLS - Gives you 5 balls instead of 3.  
HIGHLANDER - Makes your ball heavier.  
VACUUM CLEANER - Clears high scores  
EARTHQUAKE - Disables the tilt function  
DIGITAL ILLUSIONS - Stops the ball going out of play (won't let you collect bonuses or enter your name on high scores.  
FAIR PLAY - Rests all to default.

Hints and tips are taken from Titanic Cheats. This comprehensive disk of cheats is available from:

**Paul Lawrie**  
**PO Box 8253**  
**Allenstown**  
**Qld 4700**





As governor of a province of the Roman Empire, you must build cities and rule wisely. For those that liked SimCity but thought it could have had a bit more game play, Caesar has it. With more than twenty different buildings to construct, it will be a delight to the budding builder whilst still offering plenty of action in the battle scenes.

You can fight the ravening Barbarian hordes in the simple combat mode available, or you can link into Cohort II for more detailed control (I will look at Cohort II next edition).

Whilst designing your city, it is a good idea to consult with your advisors in the FORUM on a regular basis. These trusted worthies will supply you with a variety of information that is of great importance to the healthy development of your city.

It is also imperative that you keep an eye on both maps, many things can happen on the province map while you are concentrating on city construction and vice versa. The only warnings you receive are the sounds that accompany the destruction of buildings and roads.

Some of the information screens shown by the Forum.

[illegible]

Overall industry rating	Terrific
Prospects for expansion	Terrific

Fish population	114	
- last year	114	
Danairi spent on fish welfare	↑ ↓	50
Construction work		50 000
Fire prevention	↑ ↑	10 09
Building upkeep	↑ ↓	10 08
Road maintenance	↑ ↓	10 14
Provision workers	↑ ↓	18 11
Army	↑ ↓	10 10
United Fish		6



PRIME CONDORS		PATROLELINE	
		IDEALS	1
		REGULARS	1
		IRREGULARS	0
		AUXILIARIES	2
EAGLE			
1	01	Regians	
0	00	Irregulars	
0	00	Auxiliaries	
Wages bill		10 Dn	↑↓
Consumption		10 X	↑↓





# SYNDICATE



In a future, not far distant, governments have been abolished and replaced by corporate giants. Each corporation controls an area (or zone) and collects taxes from it's population.

The task assigned to you is, to control a team of four Cyborg agents with which you must complete certain missions for your corporation in order to further your domination and increase the funds coming to you via taxes.

Each of your cyborg agents can be improved by the purchase of more advanced body parts and weaponry. If you allocate funds to research, your scientists will work on developing even more highly advanced equipment, thus helping you to create a very formidable team.

Not all of the missions you are asked to perform are assassination attempts, so



It retails at \$89.95 and works with all versions of workbench (as far as I can tell). It requires at least 1 meg of ram and comes on four disks. Fortunately, it is hard drive installable and will use approximately 2.5 meg of space.

If you like strategy and having to plan your missions, then this is definitely the game for you.



don't get the idea that this is a shoot em up. Some of the missions involve your persuading others to join your team.

Many of the harder missions require you to take your team into cities controlled by rival corporations. The amount of danger you will encounter, depends on the particular corporation you are up

against. Whatever the odds, you must complete each mission before you can go onto the next.

This game uses very good graphics combined with realistic sound effects to create just the right ambiance for a secret agent.



## HELPLESS!

Marooned on Castra. You can't even afford the price of fuel. The four members of your crew that you have created by selecting their parents from the available gene pool, mutating them and then putting them through school, definitely have a difficult task ahead of them.

Whales Voyage is a space trading game with a difference. It is up to you to design the crew, put them through the various schools and get them ready to enter space.

Take them through the trials and tribulations of earning money from scratch, outfitting their ship for space and trading throughout the solar system.

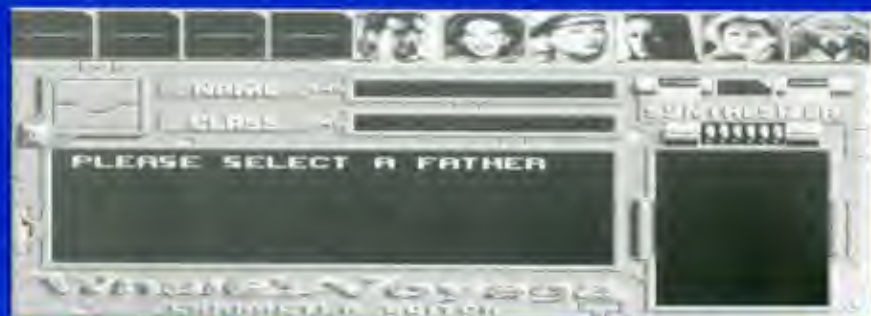
Explore the alien planets of the future, with their sinister worlds and cities inhabited by some strange and sometimes violent people. Use your Psionic abilities to tell friend from foe, as you try to get the better trading deal.

## Whale's Voyage

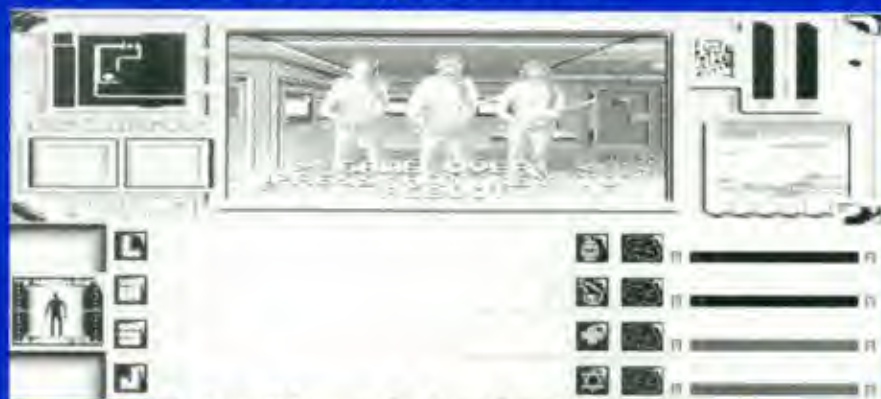


Fly your rustbucket of a spaceship between the planets whilst battling against rogue pirate ships out to steal your precious cargo.

This game includes some very good graphics and 26 different soundtracks to enhance the quality of the gameplay.



Create your crew...



Enter life and death situations...



Buy and sell goods at a profit (hopefully...).



500 CERAMICS PISTOL (BLOCK LOAN). A VERY EFFECTIVE PISTOL. MADE OF SYNTHETIC MATERIAL AND CERAMICS.

WEIGHT: 800 G.



While I have described Whales Voyage as a space trading game, it combines role playing, trade simulation and strategy with action packed fight sequences, to achieve an overall outstanding result.

The authors have incorporated an entirely new type of gameplay system which (when you get used to it) simplifies even the most complex of moves to just a few steps.

I have tested it on WB1 and WB2 machines with no problems at all. It comes on seven disks and is installable to the hard drive. The only drawback to it is that it takes up approximately 5 meg of disk space.

Overall I highly recommend Whales Voyage to anyone with a spare couple of hundred hours.



# Portfolio

of an *Artist.*

This issue's Artist is **Andrew Thomson** of  
Keatsborough Vic.

If you would like to see your own work  
displayed here, send your images to:

OZAmiga Magazine  
PO Box 567  
Mirrabooka WA 6101

